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AD 263 357

HEADQUARTERS
QUARTERMASTER RESEARCH & ENGINEERING COMMAND
U S ARMY

TECHNICAL REPORT
EP-150

HEADQUARTERS
QUARTERMASTER RESEARCH & ENGINEERING COMMAND
NATICK, MASSACHUSETTS

ANTHROPOMETRY OF ARMY AVIATORS

AD 263 357
HEADQUARTERS
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NATICK, MASSACHUSETTS



QUARTERMASTER RESEARCH & ENGINEERING CENTER
ENVIRONMENTAL PROTECTION RESEARCH DIVISION

JUNE 1961

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NATICK, MASSACHUSETTS

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QUARTERMASTER RESEARCH & ENGINEERING COMMAND, US ARMY
Quartermaster Research & Engineering Center
Natick, Massachusetts

ENVIRONMENTAL PROTECTION RESEARCH DIVISION

Technical Report
EP-150

ANTHROPOMETRY OF ARMY AVIATORS

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Physical Anthropologist

Anthropology Branch

Project Reference:
7X95-01-001

June 1961

FOREWORD

There are few Army groups as specialized in clothing and equipment requirements or as rigidly selected by virtue of age, grade, and physical qualifications as Army aviators. This report is the first attempt to characterize the body dimensions of this group, and the data presented here should remain valid until a radical change in aircraft makes flying a universal skill, or until our present aviators are replaced by a new generation of Americans with significantly different dimensions. The reference portions of this report present detailed information on all of the measurements obtained to satisfy the expected requirements of the designers and logisticians for whom the report was constructed.

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ABSTRACT

Information on the body size of Army aviators is available for the first time in the form of anthropometric measurements. The series of 500 flyers, including both warrant and commissioned officers, represents a sampling of about 10 percent of the Army aviator population. The anthropometric data, consisting of some 40 body measurements, have been analyzed, and are presented in the form of a table of percentile distributions and 82 bivariate charts. These data may now be applied in problems of design, sizing, and tariffing of flight clothing and specialized equipment for Army aviators, as well as in other areas of human engineering which require the use of body size information in aviator-equipment-aircraft systems.

ANTHROPOMETRY OF ARMY AVIATORS

1. Introduction

The Quartermaster Corps is expanding its research and development effort to meet the special clothing and equipment requirements of Army flying personnel. A serious shortcoming in this program was the lack of anthropometric data on Army aviators. Where such data were required in design or sizing problems, estimates had to be made using either body size information for the Army as a whole or data on Air Force flying personnel. This procedure was obviously unsatisfactory and, in order to fill this lack, an anthropometric survey of Army aviators was made.

2. Procedure

The Army aviator population consists of between 5000 and 6000 officers. It was planned, therefore, to obtain measurements on about 500 pilots, representing a 10 percent sampling taken at random. Three Army posts were selected, primarily because of the availability of large numbers of flyers at these sites; they were Fort Bragg, North Carolina, Fort Benning, Georgia, and Fort Rucker, Alabama.

After the necessary data sheets (Fig.1), instruments, and equipment were assembled, a team of one sergeant and 5 enlisted men from the Quartermaster Research and Engineering Field Evaluation Agency, Fort Lee, Virginia, was trained to take the anthropometric measurements. This 6-man group was later divided into 3 teams, each consisting of a measurer and a recorder who alternated their duties to relieve fatigue and boredom. Each team was responsible for a group of related measurements on the data sheet. The survey was carried out during the last two weeks in October 1959.

The subjects measured wore only undershorts and socks; the majority of the measurements, therefore, represent nude measurements. Forty anthropometric measurements, weight, and three skinfold thickness measurements were taken on each man in the series. Most of these were standard body measurements, (e.g., stature, sitting height, chest circumference) and conventional measurements of the head and face, hands and feet. A few less familiar measurements such as arm and leg reach were included for use in equipment design and human engineering problems. The 3 skinfold thickness measurements provide a basis for estimating the "percent of body fat" in each subject. Brief descriptions of the individual anthropometric measurements are given in Appendix B; further details and illustrations of the measurements may be found in reports listed in the References.

QMC ANTHROPOMETRIC SURVEY OF ARMY FLYING PERSONNEL

Date _____	Location _____	No.	1	2	3
Name _____	Serial No.				
Organization _____	Rank _____	4			
(State, if born in U.S.,)		5		6	Age 7
Birthplace (Country, if born abroad) _____		8			
Aeronautical Designation:	9	Parachutist Designation:	10		
Army Aviator _____	1	Parachutist _____	1		
Senior Army Aviator _____	2	Senior Parachutist _____	2		
Master Army Aviator _____	3	Master Parachutist _____	3		
Qualification:	11	No. hours flight time:			
Fixed-wing aircraft _____	1	Fixed-wing aircraft _____	12		
Rotary-wing aircraft _____	2	Rotary-wing aircraft _____	13		
Multi-engine _____	3	No. years since rated _____	14		
Instrument, current _____	4	Combat flying (fixed or rotary wing):			
Instrument, non-current _____	5	Yes _____ No _____	15		

Anthropometric data, consisting of body measurements, are utilized by the Quartermaster Research and Engineering Command in the design and development of Army clothing and equipment. Anthropometric data on Army aviation personnel are required for use and application in the development and integration of aviator-equipment-aircraft systems. Your cooperation and assistance in the collection of these data is greatly appreciated by the Quartermaster Corps.

Figure 1-a Survey Data Sheet (front)

2

No.

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ANTHROPOMETRIC MEASUREMENTS

Weight Stature Waist Height Crotch height Kneecap height Shoulder breadth Chest depth Foot length Foot breadth	<table border="1" style="margin: auto;"> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>																															Sitting height Eye height, sitting Seat width, sitting Shoulder-elbow length Forearm-hand length Buttock-knee length Leg length, sitting Arm reach, forward Arm reach, upward	<table border="1" style="margin: auto;"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table>																																												

Neck circum. Shoulder circum. Chest circum. Waist circum. Seat circum. Back waist length Sleeve length Ball foot circum. Hand circum. Hand length Hand breadth	<table border="1" style="margin: auto;"> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>																																		Head height Trignon nasal-root length Trignon ant. chin. proj. Face length Head length Head breadth Face breadth Head circum. Bi-trag.min. front arc Bi-trag. menton arc Bi-trag. coronal arc	<table border="1" style="margin: auto;"> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>																																	

<u>Chest skinfold</u> <table border="1" style="margin: auto;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>			<u>Arm skinfold</u> <table border="1" style="margin: auto;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>			<u>Side skinfold</u> <table border="1" style="margin: auto;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>			<u>Percent fat</u> <table border="1" style="margin: auto;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>		

Figure 1-b Survey Data Sheet (back)

3. Description of the sample

The aviators came from the following Army posts:

	<u>No.</u>	<u>%</u>
Fort Bragg, N.C.	118	23.6
Fort Benning, Ga.	149	29.8
Fort Rucker, Ala.	217	43.4
Fort Devens, Mass.	16	3.2

The 16 aviators at Fort Devens were measured in order to complete the series of 500. In the tables of demographic data (Tables III - XI), distribution is made according to Army post.

a. Distribution by grade (Tables II, III)*

The distinction between warrant and commissioned officers in Army aviation may be seen in Table II, which shows the distribution of the series by grade and aeronautical qualification. Thus all Army aviators in this series who were qualified in only fixed-wing aircraft were commissioned officers. Most aviators qualified in only rotary-wing aircraft were warrant officers (93.7 percent); only a few were commissioned officers (6.3 percent). The majority of aviators qualified in both fixed and rotary-wing aircraft were commissioned officers (97.5 percent); only 5 pilots in this category were warrant officers (1.5 percent).

The distribution of the 500 Army aviators by grade is shown in Table III. The largest group (34 percent) were First Lieutenants, followed by Captains (31.2 percent) and Chief Warrant Officers, W-2 (19.0 percent). The total series consisted of about 28 percent warrant officers and 72 percent commissioned officers. The samples from Fort Bragg and Fort Benning included higher percentages of warrant officers and relatively fewer commissioned officers; on the other hand, the sample from Fort Rucker included fewer warrant officers and a higher proportion of commissioned officers.

b. Distribution by birthplace (Table IV)

The birthplaces of the pilots in the series were recorded by state, as an indication of the geographical background of the sample. For convenience, the states have been grouped into the geographic divisions used by the Bureau of the Census. The series is characterized by a high proportion of men (49 percent) born in the southern states, comprising the South Atlantic, East South Central, and West South Central census divisions.

*See tables, Appendix A

All of the states are represented in this series, with the exception of Alaska, Delaware, Hawaii, Nevada, and New Hampshire. Georgia, the birthplace of 34 men, led among the individual states, followed by North Carolina (31 men) and Texas (28 men). Next in order were Massachusetts (24), New York (23), and Pennsylvania (21).

c. Distribution by age (Table V)

Age was recorded as of the last birthday. The modal age group is the 28 - 29 year interval. The mean age of the series is 30.25 years, with a standard deviation of 4.58 years.

d. Aeronautical designation (Table VI)

In the total series, about 89 percent were designated as Army Aviators, and 11 percent were Senior Army Aviators. There was 1 Master Army Aviator in the series.

e. Parachutist designation (Table VII)

In this series 76 percent of the aviators were not qualified as Army Parachutists. About 15 percent were designated as Parachutists, 5 percent were Senior Parachutists and about 4 percent were Master Parachutists.

f. Aeronautical qualification (rating) (Table VIII)

Of this series 30 percent were qualified in fixed-wing aircraft only, 29 percent were qualified in rotary-wing aircraft only, and 41 percent were qualified in both fixed and rotary-wing aircraft. About 12 percent of the pilots were qualified in multi-engine aircraft. About 55 percent held a current instrument rating, and about 6 percent had a non-current instrument rating. The first 3 categories add up to 100 percent, since all pilots were qualified in either fixed or rotary-wing aircraft or both. However, totals for all of the categories would exceed the totals for the series, due to multiple qualifications.

g. Number of hours of flight time (Table IX)

As an indication of flying experience, the pilots in the series were requested to record the approximate number of hours of their flight time in fixed-wing or rotary-wing aircraft (or both). The hours of flight time in fixed-wing aircraft are shown in Table IXa; the hours of flight time in rotary-wing aircraft are shown in Table IXb. In both tables, the number of hours have been arbitrarily grouped into intervals of 300 hours. About 25 percent of the pilots in the series

had no time in fixed-wing aircraft, and 30 percent had no time in rotary-wing aircraft. The distribution of the hours of flight time indicate in general a greater accumulation of experience in fixed-wing aircraft than in rotary-wing aircraft by the aviators in this series.

h. Number of years since rated (Table X)

As a further measure of their experience, the pilots in the series recorded the number of years since they were rated as Army aviators. About 30 percent of the pilots in the series had been rated for less than 2 years. Approximately 58 percent of the pilots had been rated for between 2 and 7 years (since 1952-1957), while about 12 percent had been rated for 8 or more years (before 1951).

i. Combat flying (Table XI)

The pilots in the series were requested to indicate their participation in combat flying by a "yes" or "no" response. The type (fixed- or rotary-wing aircraft), conditions, duration, or location of the combat flying was not specified. About 12 percent of the series had participated in some combat flying, and about 88 percent had not.

4. Age, stature, and weight of Army aviators

In examining the data obtained on this series of Army aviators, age, stature, and weight received first consideration, since these are the standards of initial interest as well as those used in military selection. The means for these three are given in the following tabulation: for this study, for an Air Force series, and for an Army series.

	<u>Age</u>	<u>Stature</u> (in.)	<u>Weight</u> (lb)
This study	30.25	69.5	165.8
Air Force Series*	27.9	69.1	163.7
Army Series**	24.3	68.5	154.8

* 4,000 men (over 60% officers). See ref 3

**25,000 men. See ref 2

This Army aviator series, then, averages about 2 years older, about 1/2 inch taller, and 2 pounds heavier than a comparable Air Force series. As compared with the Army as a whole, this group of Army aviators averages 6 years older, 1 inch taller, and 11 pounds heavier.

The fact that the Army flyers were found to be older, taller, and heavier was not surprising. Since they are all officers, it was known that they would be older, and it was expected that they would be taller and heavier, but by how much was not known until the survey was actually carried out.

In a further consideration of the age, stature, and weight of Army aviators, various sub-samples in the series were examined and compared. These data are shown in Table I.

TABLE I: MEAN AND S.D. OF AGE, STATURE AND WEIGHT OF ARMY AVIATORS
(according to grade, army post and geographic region)

Category	No.	Age (yr)		Stature(in.)		Weight (lb)	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
<u>Grade</u>							
Warrant Officers	141	30.32	3.95	69.31	2.31	164.04	19.27
Commissioned Off.	359	30.25	4.79	69.57	2.22	166.45	18.71
<u>Army Post</u>							
Fort Bragg	118	28.89	3.67	69.47	2.41	165.03	21.69
Fort Benning	149	29.57	4.53	69.46	2.30	165.26	18.87
Fort Rucker	217	31.61	4.73	69.50	2.17	166.39	17.40
Fort Devens	16	28.81	3.93	70.00	1.65	167.75	16.44
<u>Geographic Region</u>							
North East	94	29.70	4.88	69.04	2.18	164.87	19.40
North Central	114	30.25	4.18	69.67	2.21	166.15	17.82
South	242	30.36	4.57	69.59	2.25	166.31	19.21
West	40	31.52	4.88	69.51	2.40	163.48	18.58

Warrant officers and commissioned officers in this series were found to be of virtually the same mean age, but the commissioned officers averaged one-quarter of an inch taller and 2.4 pounds heavier than the warrant officers. In a breakdown by Army post the sample at Fort Rucker had a slightly higher mean age, which differed significantly from the mean ages of the other samples. The higher mean age at Fort Rucker was probably due to the higher proportion of older (and more senior) officers stationed at the Army Aviation School. The very small sample of aviators at Fort Devens showed the highest mean stature and weight. However, the differences in mean stature

and weight among the 4 Army posts were not statistically significant. While slight variations in mean age, stature, and weight were found among the samples representing geographic regions, none of these variations were statistically significant. Since, with the single exception of the age of the Fort Rucker sample, none of the differences in age, stature, and weight among the various samples in this series were found to be statistically significant, it was concluded that combining this group of Army aviators into a single series of 500 was justified.

5. Percentile distributions of anthropometric measurements (Table XII)

For purposes of clothing and equipment sizing, design guidance, and other human engineering applications, the presentation of anthropometric data in the form of percentile distributions is often the most useful and practical. Percentile values for the measurements taken on the 500 Army aviators in this series are shown in Table XII (Appendix C). The measurements are arranged alphabetically in this table, and the values are given in inches, with the exception of weight, which is given in pounds, and percent body fat, which is given in percentages.

In using the percentiles, it may be pointed out that, for a particular dimension, the measurement on 95 percent of the men will be below the value shown for the 95th percentile, while the measurement on the remaining 5 percent will be above that value. Similarly, 10 percent of the men will be smaller than the value shown for the 10th percentile in a given dimension, while 90 percent will be larger. The 50th percentile corresponds to the median, representing the midpoint of the range of a measurement in this series.

6. Use of bivariate charts of anthropometric measurements

The main method of presenting anthropometric data on Army aviators in this survey is in the form of bivariate charts, which are given in Appendix D. The bivariate charts are preceded by an index, to facilitate reference to any particular measurement. For convenience, the 42 measurements are listed alphabetically in the index, rather than grouped by body region. The other measurements with which the first measurement is correlated are listed opposite each measurement in the index.

The bivariate chart is essentially the presentation of information on 2 body measurements or variables; these are recorded simultaneously and each is dependent upon the value of the other. For example, in the stature-chest circumference bivariate (see Appendix D), the values for stature are shown in intervals across the top of the chart and the values for chest circumference are shown in intervals at the left side of the chart. (Decimal values in inches are the result of conversion from the

metric system which was used in the original measuring.) Within the body of the chart are shown the numbers of men who, when measured, had the indicated values of stature and chest circumference. Thus, there were 15 men in the total series who were between 67.4 and 68.1 inches tall and who also measured between 37.8 and 38.5 inches in chest circumference. Since the total number of men in each bivariate chart is always 500, the frequencies shown in the chart may be easily converted into percentages by multiplying by 2 and locating the decimal point. (This is a short-cut method for dividing each frequency by the total of 500 to obtain the percentage.) Thus the 15 men mentioned above represent 3.0 percent of the total of 500 in the series. The bivariate chart then shows the following:

1. The range, from the smallest to the largest value, of two dimensions simultaneously, for these 500 Army aviators
2. The distribution of the 500 men according to their size in terms of the 2 measurements under consideration
3. The percentages for use in estimating size distributions and tariffs may be obtained by multiplying the numbers by 2 and locating the decimal point.

Below each bivariate chart are listed the means and standard deviations of the 2 dimensions shown in the chart. The mean represents the arithmetic average of the group; the standard deviation (S.D.) is a measure of the extent to which the individual values are scattered or deviate from the mean. In the case of stature, the mean for this series is 69.497 inches, and the standard deviation is 2.251 inches. Accordingly, about 68 percent of this series may be expected to occur between -1 and +1 standard deviation from the mean, or between 67.246 and 71.748 inches of stature. Further, a range of -2 and +2 standard deviations from the mean, or between 64.995 and 73.999 inches, may be expected to include over 95 percent of the series.

The r value, shown to the right of the means and standard deviations, is the coefficient of correlation, representing a measure of the degree of relationship between the 2 dimensions. The r value between stature and chest circumference is .233, indicating only a moderate positive correlation between these 2 dimensions in this series.

The 2 equations shown below the r value are regression equations, which permit the calculation of a predicted value for one dimension from a given value of the other dimension. For example, the average chest circumference (y) of Army aviators whose stature (x) is 70 inches may be calculated by solving the equation: $y = .213 (70) + 22.914$, giving 37.824 inches. Or, by use of the other regression

equation ($x = .253 y + 59.955$), it can be predicted that the average stature (x) of pilots whose chest circumference (y) is 40 inches should be 70.075 inches. These regression equations, of course, apply only to the data on this series of Army aviators.

7. Summary

An anthropometric survey of Army aviators has been carried out in order to provide body size information formerly unavailable on this segment of the military population. During this survey, a total of 500 qualified pilots, including both warrant and commissioned officers, were measured at 4 Army posts; this represents a 10 percent random sample of Army aviators. A total of 42 anthropometric measurements were made on each individual in the series.

The anthropometric data have been analyzed and are presented in the form of percentile distributions and as bivariate charts. These data may now be used in problems involving the design, sizing, and tariffing of flight clothing and specialized equipment for Army aviators. The data will also prove useful in other areas of human engineering which require body size information in the development and integration of aviator-equipment-aircraft systems.

8. References

1. Randall, F.E. and M.J. Baer. Survey of Body Size of Army Personnel, Male and Female: Methodology. Office of The Quartermaster General, EPB Report No. 122 (Revised), Lawrence, Mass. (1951)
2. Newman, R.W. and R.M. White. Reference Anthropometry of Army Men. Office of The Quartermaster General, EPS Report No. 180, Lawrence, Mass. (1951)
3. Hertzberg, H.T.E., G.S. Daniels, and E. Churchill. Anthropometry of Flying Personnel - 1950. Wright Air Development Center, WADC Technical Report 52-321, Wright-Patterson Air Force Base, Ohio. (1954)
4. Emanuel, I., M. Alexander, E. Churchill, and B. Truett. A Height-weight Sizing System for Flight Clothing. Wright Air Development Center, WADC Technical Report 56-365, Wright-Patterson Air Force Base, Ohio. (1959)

APPENDIX A

DEMOGRAPHIC TABLES OF STUDY SAMPLE

TABLE II: DISTRIBUTION BY GRADE AND AERONAUTICAL QUALIFICATION

<u>Grade</u>	<u>Fixed-wing only</u>		<u>Rotary-wing only</u>		<u>Fixed and Rotary-wing</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Warrant Officer (W-1)	-	-	42	28.9	-	-	42	8.4
Chief Warrant Off.(W-2)	-	-	92	63.4	3	1.5	95	19.0
Chief Warrant Off.(W-3)	-	-	2	1.4	2	1.0	4	.8
2nd Lieutenant	11	7.3	1	.7	1	.5	13	2.6
1st Lieutenant	96	64.0	3	2.1	71	34.6	170	34.0
Captain	41	27.4	4	2.8	111	54.1	156	31.2
Major	2	1.3	1	.7	15	7.3	18	3.6
Lt. Colonel	-	-	-	-	2	1.0	2	.4
Total	150	100.0	145	100.0	205	100.0	500	100.0

Table III: DISTRIBUTION BY GRADE

<u>Grade</u>	<u>Fort Bragg</u>		<u>Fort Benning</u>		<u>Fort Rucker</u>		<u>Fort Devens</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Warrant Officer (W-1)	17	14.4	20	13.4	4	1.8	1	6.25	42	8.4
Chief Warrant Off. (W-2)	29	24.6	34	22.8	30	13.8	2	12.5	95	19.0
Chief Warrant Off. (W-3)	-	-	2	1.3	2	.9	-	-	4	.8
2nd Lieutenant	7	5.9	3	2.0	1	.5	2	12.5	13	2.6
1st Lieutenant	45	38.1	49	32.9	70	32.3	6	37.5	170	34.0
Captain	18	15.3	36	24.2	97	44.7	5	31.25	156	31.2
Major	1	.85	5	3.4	12	5.5	-	-	18	3.6
Lt. Colonel	1	.85	-	-	1	.5	-	-	2	.4
Warrant Officers	46	39.0	56	37.5	36	16.6	3	18.7	141	28.2
Commissioned Officers	72	61.0	93	62.5	181	83.4	13	81.3	359	71.8
Total	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

TABLE IV: DISTRIBUTION OF BIRTHPLACE (BY CENSUS DIVISION)

Census Division	Fort Bragg		Fort Benning		Fort Rucker		Fort Devens		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
New England	10	8.8	12	8.1	19	8.8	2	12.5	43	8.7
Middle Atlantic	11	9.7	11	7.4	23	10.6	6	37.5	51	10.3
South Atlantic	30	26.5	44	29.7	39	18.0	4	25.0	117	23.7
East North Central	16	14.2	13	8.8	29	13.4	1	6.25	59	12.0
West North Central	10	8.8	19	12.8	24	11.0	1	6.25	54	10.9
West South Central	14	12.4	13	8.8	28	12.9	-	-	55	11.1
East South Central	15	13.3	22	14.9	33	15.2	1	6.25	71	14.4
Mountain	1	.9	10	6.8	12	5.5	-	-	23	4.7
Pacific	3	2.7	4	2.7	10	4.6	-	-	17	3.4
Foreign*	3	2.7	-	-	-	-	1	6.25	4	.8
Total	113	100.0	148	100.0	217	100.0	16	100.0	494	100.0
Not recorded	5		1						6	
Total	118		149		217		16		500	

* Includes men born in Panama, Canada, Italy, and Czechoslovakia.

TABLE V: DISTRIBUTION OF AGE

(Years)	Fort Bragg		Fort Berning		Fort Rucker		Fort Deven		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
20 - 21	1	.85	-	-	-	-	-	-	1	.2
22 - 23	6	5.1	8	5.4	-	-	2	12.5	16	3.2
24 - 25	22	18.6	24	16.1	14	6.4	4	25.0	64	12.8
26 - 27	23	19.5	28	18.8	44	20.3	-	-	95	19.0
28 - 29	27	22.9	38	25.5	44	20.3	2	12.5	111	22.2
30 - 31	20	17.0	16	10.7	30	13.8	5	31.25	71	14.2
32 - 33	9	7.6	12	8.0	23	10.6	2	12.5	46	9.2
34 - 35	6	5.1	7	4.7	18	8.3	1	6.25	32	6.4
36 - 37	-	-	7	4.7	16	7.4	-	-	23	4.6
38 - 39	2	1.7	5	3.4	12	5.5	-	-	19	3.8
40 - 41	1	.85	2	1.3	13	6.0	-	-	16	3.2
42 - 43	1	.85	1	.7	2	.9	-	-	4	.8
44 - 45	-	-	-	-	1	.5	-	-	1	.2
46 - 47	-	-	1	.7	-	-	-	-	1	.2
Total	118	100.05	149	100.0	217	100.0	16	100.0	500	100.0
Mean(yrs):	28.83		29.56		31.60		28.75		30.25	
S.D.(yrs):	3.80		4.88		4.72		3.86		4.58	

TABLE VI: DISTRIBUTION OF AERONAUTICAL DESIGNATION

Aeronautical Designation	Fort Bragg		Fort Benning		F rt Rucker		Fort Devens		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Army Aviator	114	96.6	141	94.6	177	81.6	14	87.5	446	89.2
Senior Army Aviator	4	3.4	7	4.7	40	18.4	2	12.5	53	10.6
Master Army Aviator	-	-	1	.7	-	-	-	-	1	.2
Total	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

TABLE VII: DISTRIBUTION OF PARACHUTIST DESIGNATION

Parachutist Designation	Fort Bragg		Fort Benning		Fort Rucker		Fort Devens		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	80	67.8	115	77.2	175	80.6	11	68.8	381	76.2
Parachutist	20	17.0	18	12.1	33	15.2	3	18.8	74	14.8
Senior Parachutist	7	5.9	12	8.0	6	2.8	1	6.2	26	5.2
Master Parachutist	11	9.3	4	2.7	3	1.4	1	6.2	19	3.8
	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

TABLE VIII: DISTRIBUTION OF QUALIFICATION (RATING)

Qualification	Fort Bragg		Fort Benning		Fort Rucker		Fort Devens		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Fixed-wing only	32	27.1	48	32.2	63	29.0	7	43.8	150	30.0
Rotary-wing only	50	42.4	55	36.9	37	17.1	3	18.7	145	29.0
Fixed and rotary-wing	36	30.5	46	30.9	117	53.9	6	37.5	205	41.0
Multi-engine	6	5.1	18	12.1	34	15.7	1	6.2	59	11.8
Instrument(current)	56	47.5	81	54.4	134	61.8	5	31.2	276	55.2
Instrument (non-current)	2	1.7	2	1.3	18	8.3	6	37.5	28	5.6

TABLE IX: NUMBER OF HOURS OF FLIGHT TIME IN FIXED-WING OR ROTARY-WING AIRCRAFT

Number of Hours	Fort Bragg		Fort Benning		Fort Rucker		Fort Devens		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
a. In fixed-wing aircraft										
None	49	41.5	51	34.2	25	11.5	3	18.3	128	25.3
1-299	11	9.3	14	9.4	6	2.8	2	12.5	33	6.6
300-599	24	20.3	29	19.5	32	14.7	7	43.8	92	18.4
600-899	12	10.2	23	15.5	30	13.8	1	6.2	66	13.2
900-1199	8	6.8	8	5.4	27	12.4	1	6.2	44	8.8
1200-1499	7	5.9	7	4.7	19	8.7	-	-	33	6.6
1500-1799	2	1.7	3	2.0	14	6.5	1	6.2	20	4.0
1800-2099	1	.85	2	1.3	16	7.4	1	6.2	20	4.0
2100-2399	-	-	4	2.7	8	3.7	-	-	12	2.4
2400-2699	2	1.7	3	2.0	10	4.6	-	-	15	3.0
2700-2999	1	.85	3	2.0	6	2.8	-	-	10	2.0
3000 or more	1	.85	2	1.3	24	11.1	-	-	27	5.4
Total	118	99.95	149	100.0	217	100.0	16	99.9	500	100.0
b. In rotary-wing aircraft										
None	32	27.1	49	32.9	62	28.6	7	43.8	150	30.0
1-299	26	22.0	29	19.4	60	27.6	2	12.5	117	23.4
300-599	20	17.0	32	21.5	23	10.2	3	18.8	88	17.6
600-899	23	19.5	20	13.3	21	9.7	1	6.2	65	13.0
900-1199	10	8.5	6	4.0	13	6.0	2	12.5	31	6.2
1200-1499	3	2.5	4	2.7	8	3.7	-	-	19	3.8
1500-1799	1	.85	3	2.0	6	2.8	1	6.2	11	2.2
1800-2099	1	.85	-	-	4	1.8	-	-	5	1.0
2100-2399	1	.85	1	.7	2	.9	-	-	4	.8
2400-2699	-	-	-	-	3	1.4	-	-	3	.6
2700-2999	-	-	1	.7	3	1.4	-	-	4	.8
3000 or more	1	.85	-	-	2	.9	-	-	3	.6
Total	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

TABLE X: NUMBER OF YEARS SINCE RATED

<u>Number of Years</u>	<u>Fort Bragg</u>		<u>Fort Benning</u>		<u>Fort Rucker</u>		<u>Fort Devens</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Less than 2	58	49.2	61	40.9	25	11.5	8	50.0	152	30.4
2 - 3	37	31.4	44	29.5	73	33.6	4	25.0	158	31.6
4 - 5	15	12.7	26	17.5	55	25.4	2	12.5	98	19.6
6 - 7	4	3.4	10	6.7	19	8.8	-	-	33	6.6
8 - 9	-	-	-	-	10	4.6	2	12.5	12	2.4
10 - 11	1	.8	-	-	5	2.3	-	-	6	1.2
12 - 13	-	-	-	-	4	1.8	-	-	4	.8
14 - 15	2	1.7	1	.7	13	6.0	-	-	16	3.2
16 - 17	1	.8	7	4.7	10	4.6	-	-	18	3.6
18 - 19	-	-	-	-	2	.9	-	-	2	.4
20 or more	-	-	-	-	1	.5	-	-	1	.2
Total	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

TABLE XI: COMBAT FLYING

<u>Response</u>	<u>Fort Bragg</u>		<u>Fort Benning</u>		<u>Fort Rucker</u>		<u>Fort Devens</u>		<u>Total</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Yes	6	5.1	8	5.4	41	18.9	3	18.7	58	11.6
No	112	94.9	141	94.6	176	81.1	13	81.3	442	88.4
Total	118	100.0	149	100.0	217	100.0	16	100.0	500	100.0

APPENDIX B

BRIEF DESCRIPTIONS OF ANTHROPOMETRIC MEASUREMENTS

1. Arm Reach, Forward. The distance from the wall to the end of the middle finger, taken while the subject is sitting, with his shoulders against the wall and with his right arm and hand extended horizontally in front of him.
2. Arm Reach, Upward. The vertical distance from the seat surface to the end of the middle finger, taken while the subject is sitting, with his right arm and hand extended above his head.
3. Back Waist Length. The distance, along the surface of the back, from the largest bony bump (cervicale) at the base of the back of the neck to the point where the waist level crosses the spine.
4. Ball Foot Circumference. The distance around the right foot, with the tape passing over the inner and outer balls of the foot.
5. Bitracion-Coronal Arc. The distance over the top of the head from the notch (tracion) just forward of the upper edge of the right ear hole to the corresponding notch of the left ear.
6. Bitracion-Menton Arc. The distance over the chin from the notch (tracion) just forward of the upper edge of the right ear hole to the corresponding notch of the left ear.
7. Bitracion-Minimum Frontal Arc. The distance over the forehead above the eyebrows from the notch (tracion) just forward of the upper edge of the right ear hole to the corresponding notch of the left ear.
8. Buttock-Knee Length. The distance from the back of the right buttock to the front of the knee cap, taken with the subject seated.
9. Chest Circumference. The distance around the chest at nipple level, taken during normal breathing.

10. Chest Depth. The horizontal distance between the front and back of the chest at nipple level, taken during normal breathing.
11. Crotch Height (Inseam). The vertical distance from the floor to the lowest level of the crotch.
12. Eye Height, Sitting. The vertical distance from the seat surface to the inner corner of the eye, taken with the subject seated.
13. Face Breadth. The horizontal distance between the cheek bones (zygomatic arches).
14. Face Length. The vertical distance between the root of the nose and the chin.
15. Foot Breadth. The maximum width of the right foot.
16. Foot Length. The distance from the heel to the end of the longest toe of the right foot.
17. Forearm-Hand Length. The horizontal distance from the right elbow to the end of the middle finger of the right hand.
18. Hand Breadth. The maximum width of the right hand at the base of the fingers.
19. Hand Circumference. The distance around the right hand at the base of the fingers.
20. Hand Length. The distance from the wrist to the end of the middle finger of the right hand.
21. Head Breadth. The maximum breadth of the head.
22. Head Circumference. The maximum circumference of the head, measured above the brow ridges.
23. Head Height. The vertical distance from the notch (tragion) just forward of the upper edge of the right ear hole to the top of the head.
24. Head Length. The maximum length of the head.

25. Kneecap Height. The vertical distance from the floor to the top of the right kneecap, taken with the subject standing.
26. Leg Length, Sitting. The distance from the wall to the bottom of the foot, taken with the subject sitting against the wall and with the right leg extended.
27. Neck Circumference. The distance around the neck, taken just below the Adam's apple.
28. Percent Body Fat. An estimate of the amount of fat in the body, expressed as a percentage. The value is calculated by means of a formula from skinfold thicknesses measured at three sites: the chest, the back of the upper arm, and the side.
29. Sagittal Arc. The distance from the forehead to the lowest point at the back of the head.
30. Seat Circumference. The distance around the body at the level of the maximum protrusion of the buttocks, taken with the subject standing.
31. Seat Width, Sitting. The distance across the widest portion of the hips, taken with the subject sitting.
32. Shoulder Breadth. The distance across the shoulders (bilateral), taken between the greatest lateral protrusions of the muscles of the upper arm.
33. Shoulder Circumference. The distance around the shoulders at the level of the greatest lateral protrusion of the muscles of the upper arms.
34. Shoulder-Elbow Length. The vertical distance from the lateral tip of the right shoulder bone to the bottom of the elbow.
35. Sitting Height. The vertical distance from the seat surface to the top of the head, taken with the subject sitting.
36. Sleeve Length. The distance from the middle of the back (spine) around the right elbow to the wrist bone, taken with the elbow held at a right angle.
37. Stature. The vertical distance from the floor to the top of the head.

38. Tragion-Anterior Chin Projection. The straight-line distance from the notch (tragion) just forward of the upper edge of the right ear hole to the front of the chin.
39. Tragion-Nasal Root Length. The straight-line distance from the notch (tragion) just forward of the upper edge of the right ear hole to the root of the nose.
40. Waist Circumference. The distance around the body at the waist level, with the abdomen relaxed.
41. Waist Height (Outseam). The vertical distance from the floor to the upper edge of the hip bone at the waist.
42. Weight. Weight to the nearest pound, taken on spring scales, with the subject wearing only undershorts and socks.

APPENDIX C

TABLE XII: PERCENTILE VALUES OF ANTHROPOMETRIC MEASUREMENTS
(in inches, except Nos. 28 and 42)

Measurement*	Percentiles									
	1st	5th	10th	25th	50th	75th	90th	95th	99th	
1. Arm Reach, Forward	32.3	33.5	34.1	35.1	36.0	36.9	38.0	38.5	39.6	
2. Arm Reach, Upward	49.6	50.5	51.3	52.7	54.1	55.4	56.7	57.4	58.8	
3. Back Waist Length	14.7	16.1	16.7	17.4	18.2	19.0	19.6	20.0	20.9	
4. Ball Foot Circumference	8.5	8.8	9.0	9.4	9.8	10.2	10.7	10.8	11.3	
5. Bitracion-Coronal Arc	12.8	13.1	13.3	13.6	13.9	14.2	14.5	14.7	14.9	
6. Bitracion-Menton Arc	11.6	11.9	12.1	12.4	12.7	13.0	13.3	13.4	13.8	
7. Bitracion-Minimum Frontal Arc	11.1	11.4	11.5	11.7	12.0	12.3	12.5	12.7	13.2	
8. Buttock-Knee Length	21.4	22.1	22.4	23.1	23.8	24.5	25.2	25.8	26.7	
9. Chest Circumference	33.3	34.3	34.9	36.2	37.7	39.2	40.5	41.2	42.6	
10. Chest Depth	7.4	7.9	8.0	8.4	8.9	9.4	10.1	10.4	11.0	
11. Crotch Height (Inseam)	27.8	28.9	29.6	30.6	31.6	32.8	33.8	34.6	35.9	
12. Eye Height, Sitting	28.1	28.8	29.3	30.0	30.9	31.8	32.6	33.1	34.5	
13. Face Breadth	5.1	5.2	5.3	5.4	5.6	5.7	5.8	5.9	6.0	
14. Face Length	4.1	4.3	4.4	4.5	4.7	4.8	5.0	5.1	5.2	
15. Foot Breadth	3.5	3.6	3.7	3.8	4.0	4.1	4.3	4.4	4.5	
16. Foot Length	9.5	9.9	10.1	10.3	10.6	11.0	11.3	11.5	11.9	
17. Forearm-Hand Length	16.1	17.6	18.1	18.5	19.1	19.6	20.2	20.4	21.5	
18. Hand Breadth	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	
19. Hand Circumference	7.5	7.8	7.9	8.2	8.4	8.7	9.0	9.1	9.3	
20. Hand Length	6.7	6.9	7.0	7.2	7.5	7.7	7.9	8.1	8.3	
21. Head Breadth	5.6	5.7	5.8	6.0	6.1	6.3	6.4	6.5	6.7	

*See Appendix B for description of measurements

TABLE XII: (Continued)

<u>Measurement</u>	<u>Percentiles</u>								
	<u>1st</u>	<u>5th</u>	<u>10th</u>	<u>25th</u>	<u>50th</u>	<u>75th</u>	<u>90th</u>	<u>95th</u>	<u>99th</u>
22. Head Circumference	21.4	21.6	21.8	22.1	22.5	22.8	23.2	23.4	23.8
23. Head Height	4.4	4.6	4.7	4.8	5.0	5.2	5.3	5.4	5.6
24. Head Length	7.2	7.3	7.4	7.6	7.8	8.0	8.1	8.2	8.5
25. Kneecap Height	17.8	18.9	19.4	20.1	20.9	21.6	22.4	22.8	23.5
26. Leg Length, Sitting	40.8	42.1	42.8	43.8	44.9	46.1	47.1	47.6	48.3
27. Neck Circumference	13.4	13.8	14.1	14.6	15.1	15.6	16.1	16.3	16.9
28. Percent Body Fat (in percentages)	7.0	7.9	8.5	10.2	13.4	16.1	18.0	19.3	21.9
29. Sagittal Arc	12.5	12.9	13.1	13.4	13.8	14.1	14.4	14.6	15.0
30. Seat Circumference	33.3	34.9	35.6	36.9	38.2	39.5	40.7	41.5	43.8
31. Seat Width, Sitting	12.4	12.8	13.1	13.5	14.2	14.8	15.4	15.7	16.3
32. Shoulder Breadth	16.4	16.8	17.2	17.6	18.2	18.8	19.5	20.0	20.5
33. Shoulder Circumference	39.9	41.8	42.7	43.8	45.3	47.0	48.4	49.0	50.9
34. Shoulder-Elbow Length	13.4	13.9	14.1	14.5	15.0	15.5	15.9	16.1	16.5
35. Sitting Height	32.5	33.5	34.0	34.8	35.6	36.5	37.3	37.7	38.7
36. Sleeve Length	26.2	28.8	29.4	30.2	31.3	32.2	33.4	34.2	36.1
37. Stature	64.4	65.8	66.7	67.9	69.4	71.1	72.5	73.3	74.8
38. Tragon-Anterior Chin Projection	4.7	4.8	4.9	5.0	5.2	5.3	5.5	5.6	5.8
39. Tragon-Nasal Root Length	3.4	3.5	3.6	3.7	3.9	4.1	4.2	4.3	4.5
40. Waist Circumference	27.2	28.6	29.5	30.9	32.7	34.4	36.0	37.0	38.6
41. Waist Height (Outseam)	37.3	38.8	39.5	40.4	41.7	42.8	44.0	44.8	46.2
42. Weight(in pounds)	123.6	135.9	142.4	153.2	166.5	179.8	193.2	199.7	212.5

APPENDIX D
INDEX OF BIVARIATE CHARTS*

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	- Sitting Height	73
	- Stature	81
2. Arm Reach, Upward	- Shoulder Breadth	67
	- Sitting Height	74
	- Stature	82
3. Back Waist Length	- Chest Circumference	29
	- Stature	83
4. Ball Foot Circumference	- Foot Breadth	49
	- Foot Length	50
5. Bitragion-Coronal Arc	- Head Breadth	55
	- Head Length	60
6. Bitragion-Menton Arc	- Face Breadth	38
	- Face Length	43
7. Bitragion-Minimum Frontal Arc	- Face Breadth	39
	- Face Length	44
8. Buttock-Knee Length	- Shoulder Breadth	68
	- Sitting Height	75
	- Stature	84
9. Chest Circumference.	- Back Waist Length	29
	- Seat Circumference	30
	- Seat Width, Sitting	31
	- Shoulder Breadth	32
	- Shoulder Circumference	33
	- Sitting Height	34
	- Sleeve Length	35
	- Stature	85
	- Waist Circumference	36
	- Weight	37
10. Chest Depth	- Stature	86
11. Crotch Height (Inseam)	- Stature	87
	- Waist Circumference	105

*Numbers (1 to 42) at far left are the same as those in Appendix B and C.

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	- Sitting Height	76
	- Stature	88
13. Face Breadth	- Bitragion-Menton Arc	38
	- Bitragion-Minimum Frontal Arc	39
	- Face Length	45
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	- Head Circumference	40
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17. Forearm-Hand Length	- Sitting Height	77
	- Stature	90
18. Hand Breadth	- Hand Circumference	52
	- Hand Length	53
19. Hand Circumference	- Hand Breadth	52
	- Hand Length	54
20. Hand Length	- Hand Breadth	53
	- Hand Circumference	54
	- Stature	91
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22. Head Circumference	- Face Breadth	40
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	- Head Length	63
23. Head Height	- Head Breadth	58
	- Head Length	64
24. Head Length	- Bitragion-Coronal Arc	60
	- Face Length	61
	- Head Breadth	62
	- Head Circumference	63
	- Head Height	64
	- Sagittal Arc	65
25. Kneecap Height	- Stature	92
26. Leg Length, Sitting	- Shoulder Breadth	70
	- Sitting Height	78
	- Stature	93
27. Neck Circumference	- Stature	94
28. Percent Body Fat	- Weight	109
29. Sagittal Arc	- Head Breadth	59
	- Head Length	65
30. Seat Circumference	- Chest Circumference	30
	- Stature	95
	- Waist Circumference	106
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	- Shoulder Breadth	71
	- Sitting Height	79
	- Stature	96
32. Shoulder Breadth	- Arm Reach, Forward	66
	- Arm Reach, Upward	67
	- Buttock-Knee Length	68
	- Chest Circumference	32
	- Eye Height, Sitting	69
	- Leg Length, Sitting	70
	- Seat Width, Sitting	71
	- Sitting Height	72
	- Stature	97

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33. Shoulder Circumference	- Chest Circumference	33
	- Stature	98
34. Shoulder-Elbow Length	- Sitting Height	80
	- Stature	99
35. Sitting Height	- Arm Reach, Forward	73
	- Arm Reach, Upward	74
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	- Eye Height, Sitting	76
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	- Leg Length, Sitting	78
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	- Shoulder-Elbow Length	80
	- Stature	100
36. Sleeve Length	- Chest Circumference	35
	- Stature	101
37. Stature	- Arm Reach, Forward	81
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	- Buttock-Knee Length	84
	- Chest Circumference	85
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	- Leg Length, Sitting	93
	- Neck Circumference	94
	- Seat Circumference	95
	- Seat Width, Sitting	96
	- Shoulder Breadth	97
	- Shoulder Circumference	98
	- Shoulder-Elbow Length	99
	- Sitting Height	100
	- Sleeve Length	101
	- Waist Circumference	102
	- Waist Height (Outseam)	103
	- Weight	104
38. Tragon-Anterior Chin Projection	- Face Breadth	41
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39. Tracion-Nasal Root Length	- Face Breadth	42
	- Face Length	48
40. Waist Circumference	- Chest Circumference	36
	- Crotch Height (Inseam)	105
	- Seat Circumference	106
	- Stature	102
	- Waist Height (Outseam)	107
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41. Waist Height (Outseam)	- Stature	103
	- Waist Circumference	107
42. Weight	- Chest Circumference	37
	- Percent Body Fat	109
	- Stature	104
	- Waist Circumference	108

Measurements are in Inches	Mean: 37.717	S.D.: 2.066	x = .331y + 31.702
Chest Circumference (x)			
Back Waist Length (y)	Mean: 18.172	S.D.: 1.170	y = .106x + 14.174
			r = .187

[illegible]

Measurements are 1/4 Inches

Chest Circumference (x)
Seat Circumference (y)

Mean: 37.717
Mean: 38.175

S.D.: 2.066
S.D.: 2.056

$$\begin{aligned} r &= .696 \\ x &= .700y + 10.992 \\ y &= .693x + 12.041 \end{aligned}$$

Chest Circumference

	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.1 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	40.2 - 40.9	41.0 - 41.7	41.8 - 42.5	42.6 - 43.2	
11.81 - 12.20				1	1										2
12.21 - 12.59	2	1	2	1	1			1							8
12.60 - 12.98		2	6	4	5	5	1		1						24
12.99 - 13.38	1	2	10	10	17	6	7	4	3	2					62
13.39 - 13.77		2	4	7	9	18	14	11	9	1	1	2			78
13.78 - 14.16			4	8	10	7	18	16	7	6	3				79
14.17 - 14.56			1	4	7	11	13	18	13	10	8	2	1		88
14.57 - 14.95					4	6	9	11	12	11	7	4	1	1	66
14.96 - 15.34					2	3	4	4	8	9	3	3	1	2	39
15.35 - 15.74						2	2	5	3	6	5	6	2	3	34
15.75 - 16.13							1	2	1	2	4	1	1		12
16.14 - 16.53						1		1		2	1		1		6
16.54 - 16.92										1					1
16.93 - 17.31											1				1
	3	7	27	35	56	59	69	73	57	50	33	18	7	6	500

Measurements are in Inches

Chest Circumference (x)
Seat width, Sitting (y)Mean: 37.717
Mean: 14.187S.D.: 2.066
S.D.: .872r = .619
x = 1.467y + 16.905
y = .261x + 4.343

Seat width, sitting

	Chest Circumference															
	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	40.2 - 40.9	41.0 - 41.7	41.8 - 42.5	42.5 - 43.2		
15.0 - 15.7					1										1	
15.8 - 16.5	2	3	3	1	1			1							11	
16.5 - 17.2	1	3	10	8	7	7	5	2	2	1					46	
17.3 - 18.0		1	9	21	31	25	23	22	18	8	5			1	164	
18.1 - 18.8			4	5	13	23	31	35	26	13	10	7		1	168	
18.9 - 19.6			1		3	3	8	11	10	22	10	3	2	2	75	
19.7 - 20.4							1	2	1	6	8	6	5	1	30	
20.5 - 21.2						1						1		1	3	
21.3 - 22.0							1					1			2	
	3	7	27	35	56	59	69	73	57	50	33	18	7	6		500

Measurements are in Inches

Chest Circumference (x)
Shoulder Breadth (y)

Mean: 37.717
Mean: 18.268

S.D.: 2.066
S.D.: .875

$$\begin{aligned} r &= .617 \\ x &= 1.458y + 11.082 \\ y &= .261x + .8.424 \end{aligned}$$

Chest Circumference

Sitting Height	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	40.2 - 40.9	41.0 - 41.7	41.8 - 42.5	42.5 - 43.2	
31.5 - 32.2	1					1	1									3
32.3 - 33.0						2	2	2		1		1				8
33.1 - 33.8			1	2	2	4	3	2	3	3		2		1		26
33.9 - 34.6	1	1	4	9	6	10	9	10	9	9		2	1			72
34.7 - 35.4			1	6	12	12	17	12	24	10		4	3	1	2	114
35.5 - 36.2		1	1	5	7	13	11	26	16	12		6	7	1	1	126
36.3 - 37.0				2	4	8	12	11	11	7		9	4	3	1	81
37.0 - 37.7				2	3	5	2	3	7	12		6	2	1	2	48
37.8 - 38.5						1	2	3	2	1		2	1			16
38.6 - 39.3					1		2		1	2		1				5
39.4 - 40.1											1					1
		3	7	27	35	56	59	69	73	57	50	33	18	7	6	500

$$r = .242$$

$$x = .394y + 23.687$$

$$y = .149x + 29.988$$

$$S.D.: 2.066$$

$$S.D.: 1.271$$

$$\text{Mean: } 37.717$$

$$\text{Mean: } 35.608$$

$$\text{Chest Circumference (x)}$$

$$\text{Sitting Height (y)}$$

Measurements are in Inches

Chest Circumference

Sleeve Length	34.4 - 35.1	35.2 - 35.9	36.0 - 36.7	36.8 - 37.5	37.6 - 38.3	38.4 - 39.1	39.2 - 39.9	40.0 - 40.7	40.8 - 41.5	41.6 - 42.3	42.4 - 43.1	43.2 - 43.9	44.0 - 44.7	44.8 - 45.5	45.6 - 46.3	46.4 - 47.1	47.2 - 47.9	48.0 - 48.7	48.8 - 49.5	49.6 - 50.3	50.4 - 51.1	51.2 - 51.9	52.0 - 52.7	52.8 - 53.5	53.6 - 54.3	54.4 - 55.1	55.2 - 55.9	56.0 - 56.7	56.8 - 57.5	57.6 - 58.3	58.4 - 59.1	59.2 - 59.9	60.0 - 60.7	60.8 - 61.5	61.6 - 62.3	62.4 - 63.1	63.2 - 63.9	64.0 - 64.7	64.8 - 65.5	65.6 - 66.3	66.4 - 67.1	67.2 - 67.9	68.0 - 68.7	68.8 - 69.5	69.6 - 70.3	70.4 - 71.1	71.2 - 71.9	72.0 - 72.7	72.8 - 73.5	73.6 - 74.3	74.4 - 75.1	75.2 - 75.9	76.0 - 76.7	76.8 - 77.5	77.6 - 78.3	78.4 - 79.1	79.2 - 79.9	80.0 - 80.7	80.8 - 81.5	81.6 - 82.3	82.4 - 83.1	83.2 - 83.9	84.0 - 84.7	84.8 - 85.5	85.6 - 86.3	86.4 - 87.1	87.2 - 87.9	88.0 - 88.7	88.8 - 89.5	89.6 - 90.3	90.4 - 91.1	91.2 - 91.9	92.0 - 92.7	92.8 - 93.5	93.6 - 94.3	94.4 - 95.1	95.2 - 95.9	96.0 - 96.7	96.8 - 97.5	97.6 - 98.3	98.4 - 99.1	99.2 - 99.9	100.0 - 100.7	100.8 - 101.5	101.6 - 102.3	102.4 - 103.1	103.2 - 103.9	104.0 - 104.7	104.8 - 105.5	105.6 - 106.3	106.4 - 107.1	107.2 - 107.9	108.0 - 108.7	108.8 - 109.5	109.6 - 110.3	110.4 - 111.1	111.2 - 111.9	112.0 - 112.7	112.8 - 113.5	113.6 - 114.3	114.4 - 115.1	115.2 - 115.9	116.0 - 116.7	116.8 - 117.5	117.6 - 118.3	118.4 - 119.1	119.2 - 119.9	120.0 - 120.7	120.8 - 121.5	121.6 - 122.3	122.4 - 123.1	123.2 - 123.9	124.0 - 124.7	124.8 - 125.5	125.6 - 126.3	126.4 - 127.1	127.2 - 127.9	128.0 - 128.7	128.8 - 129.5	129.6 - 130.3	130.4 - 131.1	131.2 - 131.9	132.0 - 132.7	132.8 - 133.5	133.6 - 134.3	134.4 - 135.1	135.2 - 135.9	136.0 - 136.7	136.8 - 137.5	137.6 - 138.3	138.4 - 139.1	139.2 - 139.9	140.0 - 140.7	140.8 - 141.5	141.6 - 142.3	142.4 - 143.1	143.2 - 143.9	144.0 - 144.7	144.8 - 145.5	145.6 - 146.3	146.4 - 147.1	147.2 - 147.9	148.0 - 148.7	148.8 - 149.5	149.6 - 150.3	150.4 - 151.1	151.2 - 151.9	152.0 - 152.7	152.8 - 153.5	153.6 - 154.3	154.4 - 155.1	155.2 - 155.9	156.0 - 156.7	156.8 - 157.5	157.6 - 158.3	158.4 - 159.1	159.2 - 159.9	160.0 - 160.7	160.8 - 161.5	161.6 - 162.3	162.4 - 163.1	163.2 - 163.9	164.0 - 164.7	164.8 - 165.5	165.6 - 166.3	166.4 - 167.1	167.2 - 167.9	168.0 - 168.7	168.8 - 169.5	169.6 - 170.3	170.4 - 171.1	171.2 - 171.9	172.0 - 172.7	172.8 - 173.5	173.6 - 174.3	174.4 - 175.1	175.2 - 175.9	176.0 - 176.7	176.8 - 177.5	177.6 - 178.3	178.4 - 179.1	179.2 - 179.9	180.0 - 180.7	180.8 - 181.5	181.6 - 182.3	182.4 - 183.1	183.2 - 183.9	184.0 - 184.7	184.8 - 185.5	185.6 - 186.3	186.4 - 187.1	187.2 - 187.9	188.0 - 188.7	188.8 - 189.5	189.6 - 190.3	190.4 - 191.1	191.2 - 191.9	192.0 - 192.7	192.8 - 193.5	193.6 - 194.3	194.4 - 195.1	195.2 - 195.9	196.0 - 196.7	196.8 - 197.5	197.6 - 198.3	198.4 - 199.1	199.2 - 199.9	200.0 - 200.7	200.8 - 201.5	201.6 - 202.3	202.4 - 203.1	203.2 - 203.9	204.0 - 204.7	204.8 - 205.5	205.6 - 206.3	206.4 - 207.1	207.2 - 207.9	208.0 - 208.7	208.8 - 209.5	209.6 - 210.3	210.4 - 211.1	211.2 - 211.9	212.0 - 212.7	212.8 - 213.5	213.6 - 214.3	214.4 - 215.1	215.2 - 215.9	216.0 - 216.7	216.8 - 217.5	217.6 - 218.3	218.4 - 219.1	219.2 - 219.9	220.0 - 220.7	220.8 - 221.5	221.6 - 222.3	222.4 - 223.1	223.2 - 223.9	224.0 - 224.7	224.8 - 225.5	225.6 - 226.3	226.4 - 227.1	227.2 - 227.9	228.0 - 228.7	228.8 - 229.5	229.6 - 230.3	230.4 - 231.1	231.2 - 231.9	232.0 - 232.7	232.8 - 233.5	233.6 - 234.3	234.4 - 235.1	235.2 - 235.9	236.0 - 236.7	236.8 - 237.5	237.6 - 238.3	238.4 - 239.1	239.2 - 239.9	240.0 - 240.7	240.8 - 241.5	241.6 - 242.3	242.4 - 243.1	243.2 - 243.9	244.0 - 244.7	244.8 - 245.5	245.6 - 246.3	246.4 - 247.1	247.2 - 247.9	248.0 - 248.7	248.8 - 249.5	249.6 - 250.3	250.4 - 251.1	251.2 - 251.9	252.0 - 252.7	252.8 - 253.5	253.6 - 254.3	254.4 - 255.1	255.2 - 255.9	256.0 - 256.7	256.8 - 257.5	257.6 - 258.3	258.4 - 259.1	259.2 - 259.9	260.0 - 260.7	260.8 - 261.5	261.6 - 262.3	262.4 - 263.1	263.2 - 263.9	264.0 - 264.7	264.8 - 265.5	265.6 - 266.3	266.4 - 267.1	267.2 - 267.9	268.0 - 268.7	268.8 - 269.5	269.6 - 270.3	270.4 - 271.1	271.2 - 271.9	272.0 - 272.7	272.8 - 273.5	273.6 - 274.3	274.4 - 275.1	275.2 - 275.9	276.0 - 276.7	276.8 - 277.5	277.6 - 278.3	278.4 - 279.1	279.2 - 279.9	280.0 - 280.7	280.8 - 281.5	281.6 - 282.3	282.4 - 283.1	283.2 - 283.9	284.0 - 284.7	284.8 - 285.5	285.6 - 286.3	286.4 - 287.1	287.2 - 287.9	288.0 - 288.7	288.8 - 289.5	289.6 - 290.3	290.4 - 291.1	291.2 - 291.9	292.0 - 292.7	292.8 - 293.5	293.6 - 294.3	294.4 - 295.1	295.2 - 295.9	296.0 - 296.7	296.8 - 297.5	297.6 - 298.3	298.4 - 299.1	299.2 - 299.9	300.0 - 300.7	300.8 - 301.5	301.6 - 302.3	302.4 - 303.1	303.2 - 303.9	304.0 - 304.7	304.8 - 305.5	305.6 - 306.3	306.4 - 307.1	307.2 - 307.9	308.0 - 308.7	308.8 - 309.5	309.6 - 310.3	310.4 - 311.1	311.2 - 311.9	312.0 - 312.7	312.8 - 313.5	313.6 - 314.3	314.4 - 315.1	315.2 - 315.9	316.0 - 316.7	316.8 - 317.5	317.6 - 318.3	318.4 - 319.1	319.2 - 319.9	320.0 - 320.7	320.8 - 321.5	321.6 - 322.3	322.4 - 323.1	323.2 - 323.9	324.0 - 324.7	324.8 - 325.5	325.6 - 326.3	326.4 - 327.1	327.2 - 327.9	328.0 - 328.7	328.8 - 329.5	329.6 - 330.3	330.4 - 331.1	331.2 - 331.9	332.0 - 332.7	332.8 - 333.5	333.6 - 334.3	334.4 - 335.1	335.2 - 335.9	336.0 - 336.7	336.8 - 337.5	337.6 - 338.3	338.4 - 339.1	339.2 - 339.9	340.0 - 340.7	340.8 - 341.5	341.6 - 342.3	342.4 - 343.1	343.2 - 343.9	344.0 - 344.7	344.8 - 345.5	345.6 - 346.3	346.4 - 347.1	347.2 - 347.9	348.0 - 348.7	348.8 - 349.5	349.6 - 350.3	350.4 - 351.1	351.2 - 351.9	352.0 - 352.7	352.8 - 353.5	353.6 - 354.3	354.4 - 355.1	355.2 - 355.9	356.0 - 356.7	356.8 - 357.5	357.6 - 358.3	358.4 - 359.1	359.2 - 359.9	360.0 - 360.7	360.8 - 361.5	361.6 - 362.3	362.4 - 363.1	363.2 - 363.9	364.0 - 364.7	364.8 - 365.5	365.6 - 366.3	366.4 - 367.1	367.2 - 367.9	368.0 - 368.7	368.8 - 369.5	369.6 - 370.3	370.4 - 371.1	371.2 - 371.9	372.0 - 372.7	372.8 - 373.5	373.6 - 374.3	374.4 - 375.1	375.2 - 375.9	376.0 - 376.7	376.8 - 377.5	377.6 - 378.3	378.4 - 379.1	379.2 - 379.9	380.0 - 380.7	380.8 - 381.5	381.6 - 382.3	382.4 - 383.1	383.2 - 383.9	384.0 - 384.7	384.8 - 385.5	385.6 - 386.3	386.4 - 387.1	387.2 - 387.9	388.0 - 388.7	388.8 - 389.5	389.6 - 390.3	390.4 - 391.1	391.2 - 391.9	392.0 - 392.7	392.8 - 393.5	393.6 - 394.3	394.4 - 395.1	395.2 - 395.9	396.0 - 396.7	396.8 - 397.5	397.6 - 398.3	398.4 - 399.1	399.2 - 399.9	400.0 - 400.7	400.8 - 401.5	401.6 - 402.3	402.4 - 403.1	403.2 - 403.9	404.0 - 404.7	404.8 - 405.5	405.6 - 406.3	406.4 - 407.1	407.2 - 407.9	408.0 - 408.7	408.8 - 409.5	409.6 - 410.3	410.4 - 411.1	411.2 - 411.9	412.0 - 412.7	412.8 - 413.5	413.6 - 414.3	414.4 - 415.1	415.2 - 415.9	416.0 - 416.7	416.8 - 417.5	417.6 - 418.3	418.4 - 419.1	419.2 - 419.9	420.0 - 420.7	420.8 - 421.5	421.6 - 422.3	422.4 - 423.1	423.2 - 423.9	424.0 - 424.7	424.8 - 425.5	425.6 - 426.3	426.4 - 427.1	427.2 - 427.9	428.0 - 428.7	428.8 - 429.5	429.6 - 430.3	430.4 - 431.1	431.2 - 431.9	432.0 - 432.7	432.8 - 433.5	433.6 - 434.3	434.4 - 435.1	435.2 - 435.9	436.0 - 436.7	436.8 - 437.5	437.6 - 438.3	438.4 - 439.1	439.2 - 439.9	440.0 - 440.7	440.8 - 441.5	441.6 - 442.3	442.4 - 443.1	443.2 - 443.9	444.0 - 444.7	444.8 - 445.5	445.6 - 446.3	446.4 - 447.1	447.2 - 447.9	448.0 - 448.7	448.8 - 449.5	449.6 - 450.3	450.4 - 451.1	451.2 - 451.9	452.0 - 452.7	452.8 - 453.5	453.6 - 454.3	454.4 - 455.1	455.2 - 455.9	456.0 - 456.7	456.8 - 457.5	457.6 - 458.3	458.4 - 459.1	459.2 - 459.9	460.0 - 460.7	460.8 - 461.5	461.6 - 462.3	462.4 - 463.1	463.2 - 463.9	464.0 - 464.7	464.8 - 465.5	465.6 - 466.3	466.4 - 467.1	467.2 - 467.9	468.0 - 468.7	468.8 - 469.5	469.6 - 470.3	470.4 - 471.1	471.2 - 471.9	472.0 - 472.7	472.8 - 473.5	473.6 - 474.3	474.4 - 475.1	475.2 - 475.9	476.0 - 476.7	476.8 - 477.5	477.6 - 478.3	478.4 - 479.1	479.2 - 479.9	480.0 - 480.7	480.8 - 481.5	481.6 - 482.3	482.4 - 483.1	483.2 - 483.9	484.0 - 484.7	484.8 - 485.5	485.6 - 486.3	486.4 - 487.1	487.2 - 487.9	488.0 - 488.7	488.8 - 489.5	489.6 - 490.3	490.4 - 491.1	491.2 - 491.9	492.0 - 492.7	492.8 - 493.5	493.6 - 494.3	494.4 - 495.1	495.2 - 495.9	496.0 - 496.7	496.8 - 497.5	497.6 - 498.3	498.4 - 499.1	499.2 - 499.9	500.0 - 500.7	500.8 - 501.5	501.6 - 502.3	502.4 - 503.1	503.2 - 503.9	504.0 - 504.7	504.8 - 505.5	505.6 - 506.3	506.4 - 507.1	507.2 - 507.9	508.0 - 508.7	508.8 - 509.5	509.6 - 510.3	510.4 - 511.1	511.2 - 511.9	512.0 - 512.7	512.8 - 513.5	513.6 - 514.3	514.4 - 515.1	515.2 - 515.9	516.0 - 516.7	516.8 - 517.5	517.6 - 518.3	518.4 - 519.1	519.2 - 519.9	520.0 - 520.7	520.8 - 521.5	521.6 - 522.3	522.4 - 523.1	523.2 - 523.9	524.0 - 524.7	524.8 - 525.5	525.6 - 526.3	526.4 - 527.1	527.2 - 527.9	528.0 - 528.7	528.8 - 529.5	529.6 - 530.3	530.4 - 531.1	531.2 - 531.9	532.0 - 532.7	532.8 - 533.5	533.6 - 534.3	534.4 - 535.1	535.2 - 535.9	536.0 - 536.7	536.8 - 537.5	537.6 - 538.3	538.4 - 539.1	539.2 - 539.9	540.0 - 540.7	540.8 - 541.5	541.6 - 542.3	542.4 - 543.1	543.2 - 543.9	544.0 - 544.7	544.8 - 545.5	545.6 - 546.3	546.4 - 547.1	547.2 - 547.9	548.0 - 548.7	548.8 - 549.5	549.6 - 550.3	550.4 - 551.1	551.2 - 551.9	552.0 - 552.7	552.8 - 553.5	553.6 - 554.3	554.4 - 555.1	555.2 - 555.9	556.0 - 556.7	556.8 - 557.5	557.6 - 558.3	558.4 - 559.1	559.2 - 559.9	560.0 - 560.7	560.8 - 561.5	561.6 - 562.3	562.4 - 563.1	563.2 - 563.9	564.0 - 564.7	564.8 - 565.5	565.6 - 566.3	566.4 - 567.1	567.2 - 567.9	568.0 - 568.7	568.8 - 569.5	569.6 - 570.3	570.4 - 571.1	571.2 - 571.9	572.0 - 572.7	572.8 - 573.5	573.6 - 574.3	574.4 - 575.1	575.2 - 575.9	576.0 - 576.7	576.8 - 577.5	577.6 - 578.3	578.4 - 579.1	579.2 - 579.9	580.0 - 580.7	580.8 - 581.5	581.6 - 582.3	582.4 - 583.1	583.2 - 583.9	584.0 - 584.7	584.8 - 585.5	585.6 - 586.3	586.4 - 587.1	587.2 - 587.9	588.0 - 588.7	588.8 - 589.5	589.6 - 590.3	590.4 - 591.1	591.2 - 591.9	592.0 - 592.7	592.8 - 593.5	593.6 - 594.3	594.4 - 595.1	595.2 - 595.9	596.0 - 596.7	596.8 - 597.5	597.6 - 598.3	598.4 - 599.1	599.2 - 599.9	600.0 - 600.7	600.8 - 601.5	601.6 - 602.3	602.4 - 603.1	603.2 - 603.9	604.0 - 604.7	604.8 - 605.5	605.6 - 606.3	606.4 - 607.1	607.2 - 607.9	608.0 - 608.7	608.8 - 609.5	609.6 - 610.3	610.4 - 611.1	611.2 - 611.9	612.0 - 612.7	612.8 - 613.5	613.6 - 614.3	614.4 - 615.1	615.2 - 615.9	616.0 - 616.7	616.8 - 617.5	617.6 - 618.3	618.4 - 619.1	619.2 - 6
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$$\begin{array}{r} r = .728 \\ x = .604y + 17.969 \\ y = .877x - .382 \end{array}$$

Chest Circumference

	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	40.2 - 40.9	41.0 - 41.7	41.8 - 42.5	42.5 - 43.2	
110 - 119	1														1
120 - 129	1	3	6		1										11
130 - 139		1	2	11	7			1							22
140 - 149	1	2	12	11	17	12	7	3	1						66
150 - 159		1	7	7	16	15	18	7	5	2	1				79
160 - 169					3	22	19	25	22	3	1				110
170 - 179				6	12	9	22	17	13	16	6	1	1		88
180 - 189						1	2	15	10	15	10	7	1		61
190 - 199							1	4	5	6	10	5	3	4	38
200 - 209								1	1	6	5	4	1		18
210 - 219										1			1	2	4
220 - 229										1		1			2
	3	7	27	35	56	59	69	73	57	50	33	18	7	6	500

$r = .789$
 $x = .086y + 23.461$
 $y = 7.217x - 106.432$

Mean: 37.717 S.D.: 2.066
 Mean: 165.772 S.D.: 18.899

Chest Circumference is in Inches
 Weight is in Pounds

$$\begin{aligned} r &= .417 \\ x &= .183y + 3.248 \\ y &= .952x + 7.375 \end{aligned}$$

Face Breadth	Measurements are in Inches																Face Breadth (x) Bistragion-Minimum Frontal Arc (y)	Mean: 5.568 Mean: 12.028	S.D.: .200 S.D.: .398	r ² .410 x ² .206y +3.090 y ² .617x +7.479
	5.01	5.09	5.17	5.25	5.26	5.33	5.41	5.49	5.57	5.65	5.73	5.81	5.89	5.97	6.04	6.12				
10.93 - 11.12				1	1			1	1											
11.12 - 11.31				1	1	4	2													
11.32 - 11.51				4	2	4	5	13	2	1										
11.52 - 11.71			5	5	3	12	6	10	8	9	3	2								
11.71 - 11.90				3	10	11	7	12	11	10	5	4	1							
11.91 - 12.10		2	1	5	6	11	10	12	24	20	11	9		2			1			
12.11 - 12.30			1	2	1	10	9	11	16	16	12	11		1						
12.31 - 12.49					4	4	7	7	4	15	13	6	1	1						
12.50 - 12.69						1	3	3	3	4	4	7	2	1						
12.70 - 12.89									3	1	2	5	1	2						
12.89 - 13.09						1				1										
13.09 - 13.28												1		2		1				
13.29 - 13.48				1		1				1										
13.48 - 13.68																				
	1	2	7	22	32	59	50	70	71	78	47	45	5	9	1	1	500			

Measurements are in Inches.

Face Breadth (x)	Mean: 5.568	S.D.: .200	$x = .1979 + 2.442$
Head Circumference (y)	Mean: 22.489	S.D.: .545	$y = 1.035x + 16.726$
			$r = .379$

Face Breadth	4.94 - 5.01	5.02 - 5.09	5.10 - 5.17	5.18 - 5.25	5.26 - 5.33	5.34 - 5.41	5.42 - 5.49	5.50 - 5.57	5.58 - 5.65	5.66 - 5.73	5.74 - 5.81	5.82 - 5.89	5.90 - 5.97	5.98 - 6.05	6.06 - 6.13	6.14 - 6.21	6.22 - 6.29
4.94 - 5.01	1																
5.02 - 5.09		1															
5.10 - 5.17			2														
5.18 - 5.25				2													
5.26 - 5.33					2												
5.34 - 5.41						1											
5.42 - 5.49							1										
5.50 - 5.57								1									
5.58 - 5.65									1								
5.66 - 5.73										1							
5.74 - 5.81											1						
5.82 - 5.89												1					
5.90 - 5.97													1				
5.98 - 6.05														1			
6.06 - 6.13															1		
6.14 - 6.21																1	
6.22 - 6.29																	1

Measurements are in Inches

Face Breadth (x)
Triglon-Interior Chin Projection (y)

Mean: 5.568 S.D.: .200
Mean: 5.181 S.D.: .257

$r = .255$
 $x = .198y + 4.542$
 $y = .328x + 3.355$

Face Breadth

Tragion-Nasal Root Length	4.94 - 5.01	5.02 - 5.09	5.10 - 5.17	5.18 - 5.25	5.26 - 5.33	5.34 - 5.41	5.42 - 5.49	5.49 - 5.57	5.57 - 5.64	5.65 - 5.72	5.73 - 5.80	5.81 - 5.88	5.89 - 5.96	5.97 - 6.04	6.04 - 6.12	6.13 - 6.20	6.20 - 6.27
3.29 - 3.36						1				1		1					
3.37 - 3.44						1	2				1						
3.45 - 3.52			1		1	1	2	1	2		1						
3.53 - 3.60				1	3	1	3	6	3	5							
3.61 - 3.68			1	3	6	2	5	9	1	4	1	1		1			
3.69 - 3.75	1		1	7	3	13	5	9	13	2	3	1	2			1	
3.76 - 3.83			1	1	4	8	4	10	9	9	9				1		
3.84 - 3.91			2	2	5	12	7	8	5	14	7	11					
3.92 - 3.99		1	1	5	1	9	7	8	9	11	6	9		2			
4.00 - 4.07					4	5	5	5	9	9	5	3	1	2			
4.08 - 4.15				1	1	4	3	8	9	6	5	9	1	1			
4.16 - 4.23		1			3	4	1	4	4	7	6	5		1			
4.24 - 4.31				1		1		1	1	7	2	2	1				
4.32 - 4.38				1	1				3		1	2					
4.39 - 4.46						1	1		1	1				1			
4.47 - 4.54									1								
4.55 - 4.62																	
4.63 - 4.70																	
	1	2	7	22	32	59	50	70	71	78	47	45	5	9	1	1	500

$r = .221$
 $x^2 = .1997 + 4.791x$
 $y = .245x + 2.543$

S.D.: .200
 S.D.: .222

Mean: 5.568
 Mean: 3.907

Face Breadth (x)
 Tragion-Nasal Root Length (y)

Measurements are in Inches

Face Length

Bitration-Menton Arc	4.08 - 4.15	4.15 - 4.23	4.23 - 4.31	4.31 - 4.38	4.39 - 4.46	4.47 - 4.54	4.55 - 4.62	4.63 - 4.70	4.71 - 4.78	4.78 - 4.86	4.86 - 4.94	4.94 - 5.01	5.02 - 5.09	5.10 - 5.17	5.18 - 5.25	5.26 - 5.33	5.34 - 5.41	5.41 - 5.49
11.52 - 11.71				2		1	1	1	2	1								
11.71 - 11.90	1	1		1	1	1	4	4	3									
11.91 - 12.10	1	1	1	3	3	10	3	1	2	2	1			1	1			
12.11 - 12.30	3	2		2	4	3	7	4	5	2	3	4	2		2			1
12.30 - 12.49	1	2	3	7	8	7	6	11	5	11	5	3		2	1			
12.50 - 12.69		2	2	8	9	12	11	14	12	5	10	10	2	2	2			
12.70 - 12.89		3	2	1	4	10	7	4	8	3	3	2	1	1	1		1	
12.89 - 13.09			2	6	6	14	7	13	7	12	9	7	4	3	1			
13.09 - 13.28				2		4	5	3	4	4	3	1	2		2			
13.29 - 13.48	1					4	8	5	4	7	3	2	1		3	1		
13.48 - 13.68					3			1	1	3	1	1						
13.68 - 13.87			1	1				2	1			1	1		1			
	6	12	11	33	38	66	59	63	54	50	38	31	13	9	14	1	1	500

$$r = .185$$

$$x = .099y + 3.416$$

$$y = .316x + 11.060$$

$$S.D.: .244$$

$$S.D.: .456$$

$$\text{Mean: } 4.671$$

$$\text{Mean: } 12.676$$

$$\text{Face Length (x)}$$

$$\text{Bitration-Menton Arc (y)}$$

$$\text{Measurements are in Inches}$$

Measurements are in Inches	Face Length (x)	Mean: 4.671	S.D.: .244	x = .110y + 3.348
	Bifurcation-Minimum Frontal Arc (y)	Mean: 12.028	S.D.: .398	y = .293x + 10.559
				r = .179

$$\begin{aligned} r^2 &= .164 \\ x^2 &= .2007 + 3.557 \\ y^2 &= .134x + 4.942 \end{aligned}$$

Measurements are in Inches

Face Length (x)
Face Breadth (y)

Mean: 4.671
Mean: 5.568

S.D.: .244
S.D.: .200

$$\begin{aligned} r &= .197 \\ x &= .088y + 2.692 \\ y &= .441x + 20.429 \end{aligned}$$

$$\begin{aligned} r &= .167 \\ x &= .158y + 3.852 \\ y &= .177x + 4.354 \end{aligned}$$

S.D.: .244
S.D.: .257

Mean: 4.671
Mean: 5.181

Face Length (x)
Trignon-Anterior Chin Projection (y)

Measurements are in inches

Face Length (x)	Fracture-Basal Root Length (y)	Measurements are in Inches
3.23 - 3.36	6	12
3.37 - 3.44	11	33
3.45 - 3.52	1	38
3.52 - 3.60	1	39
3.60 - 3.68	1	40
3.68 - 3.75	1	41
3.75 - 3.83	1	42
3.84 - 3.91	1	43
3.92 - 3.99	1	44
4.00 - 4.07	1	45
4.08 - 4.15	1	46
4.15 - 4.23	1	47
4.23 - 4.31	1	48
4.31 - 4.38	1	49
4.39 - 4.46	1	50
4.47 - 4.54	1	51
4.55 - 4.62	1	52
4.63 - 4.70	1	53

Measurements are in Inches

Face Length (x)
Triglochin-Nasal Root Length (y)

Mean: 4.671
Mean: 3.907

S.D.: .244
S.D.: .222

$$\begin{aligned} r &= .206 \\ x &= .227y + 3.784 \\ y &= .188x + 3.029 \end{aligned}$$

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Ball Foot Circumference	Foot Length	2	4	8	14	38	51	61	63	67	67	67	67	40	26	24	9	3	1	2	500
8.17 - 9.35	1																				
8.37 - 9.55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8.55 - 8.75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8.75 - 9.35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8.35 - 9.15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9.15 - 9.35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9.35 - 9.54																					
9.55 - 9.74																					
9.75 - 9.94																					
9.94 - 10.13																					
10.14 - 10.33																					
10.34 - 10.53																					
10.54 - 10.73																					
10.73 - 10.92																					
10.93 - 11.12																					
11.13 - 11.32																					
11.32 - 11.51																					
11.52 - 11.71																					
11.72 - 11.91																					

Measurements are in inches

Foot Breadth (x) Mean: 3.990 S.D.: .211

Ball Foot Circumference (y) Mean: 9.777 S.D.: .624

$r = .648$

$x = .219y + 1.844$

$y = 1.915x + 2.156$

Hand Breadth

Hand Circumference	2.97 - 3.05	3.05 - 3.12	3.13 - 3.20	3.21 - 3.28	3.29 - 3.36	3.37 - 3.44	3.45 - 3.52	3.52 - 3.60	3.60 - 3.68	3.68 - 3.75	3.76 - 3.83	3.84 - 3.91	3.92 - 3.99
7.33 - 7.57	1		2	3	1								
7.58 - 7.77		1	3	4	2								
7.78 - 7.97	1		10	14	5	3		1					6
7.97 - 8.16			4	5	23	12							11
8.17 - 8.36			1	8	23	14	5						38
8.37 - 8.56				2	7	21	13	15	6		1		53
8.56 - 8.75			1		3	7	24	32	5	2	1		114
8.76 - 8.95						1	17	30	14	4	1	1	94
8.96 - 9.15							2	13	23	15	3		78
9.15 - 9.34							1	3	12	16	3		57
9.35 - 9.54					1			1	2	1	3	1	35
9.55 - 9.74												1	10
												2	2
												1	2
	1	1	21	36	70	98	52	102	62	38	13	5	500

Measurements are in Inches

Hand Breadth (x)
Hand Circumference (y)

Mean: 3.484
Mean: 8.450

r = .806
x = .347y + .552
y = 1.874x + 1.921

Hand Length

2.97 - 3.05	1	6.40 - 6.59	6.60 - 6.79	6.79 - 6.98	6.99 - 7.18	7.19 - 7.38	7.38 - 7.57	7.58 - 7.77	7.78 - 7.97	7.97 - 8.16	8.17 - 8.36	8.37 - 8.56	1
3.05 - 3.12	1												1
3.13 - 3.20	2		2	2	8	3	3	1	2				21
3.21 - 3.28	1		2	7	8	6	7	1	4				36
3.29 - 3.36			1	12	13	20	14	6	3	1			70
3.37 - 3.44			1	3	13	27	22	12	6	4			88
3.45 - 3.52	1			4	6	13	20	11	7				62
3.52 - 3.60			3	1	10	18	30	24	7	9			102
3.60 - 3.68						9	14	18	15	5		1	62
3.68 - 3.75					1	3	6	8	5	10	4	1	38
3.76 - 3.83						1	3	3	3	1	1	1	13
3.84 - 3.91								1	1	2		1	5
3.92 - 3.99								1					1
	2	9	31	59	100	119	86	53	32	5	4	500	

$$r = .606$$

$$x = 1.079y + 3.712$$

$$y = .237x + 1.713$$

Measurements are in Inches

Hand Length (x)
Hand Breadth (y)

Mean: 7.471
Mean: 3.484

S.D.: .344
S.D.: .161

Hand Circumference	6.40 - 6.59	6.60 - 6.79	6.79 - 6.98	6.99 - 7.18	7.19 - 7.38	7.38 - 7.57	7.58 - 7.77	7.78 - 7.97	7.97 - 8.16	8.17 - 8.36	8.37 - 8.56	
7.38 - 7.57		1		2	1	2						6
7.58 - 7.77	1	1	2	2	4			1				11
7.78 - 7.97		2	8	11	8	6	2	1				38
7.97 - 8.16		1	6	14	17	9	4	2				53
8.17 - 8.36	1	3	10	17	25	32	14	11	1			114
8.37 - 8.56		1	4	8	20	28	18	9	6			94
8.56 - 8.75			1	4	12	23	21	7	10			78
8.76 - 8.95					7	15	19	8	5	2	1	57
8.96 - 9.15				1	6	2	6	10	7	2	1	35
9.15 - 9.34						2	1	3	2	1	1	10
9.35 - 9.54									1		1	2
9.55 - 9.74							1	1				2
	2	9	31	59	100	119	86	53	32	5	4	500

Measurements are in Inches

r = .559
 x = .513y + 3.136
 y = .609x + 3.900

[illegible]

Measurements are in Inches

Head Breadth (x)
Bitrignon-Coronal

Arc (y)

Mean: 6.118
Mean: 13.914

S.D.: .213
S.D.: .452

$$\begin{aligned} r &= .592 \\ x &= .279y + 2.236 \\ y &= 1.255x + 6.236 \end{aligned}$$

$$\begin{aligned} r &= .535 \\ x &= .571y + 2.939 \\ y &= .501x + 2.503 \end{aligned}$$

Measurements are in Inches

Head Breadth

Head Breadth	5.41 - 5.60	5.61 - 5.79	5.80 - 5.98	5.99 - 6.17	6.18 - 6.36	6.37 - 6.55	6.56 - 6.74	6.75 - 6.93	6.94 - 7.12	7.13 - 7.31	7.32 - 7.50	7.51 - 7.69	7.70 - 7.88	7.89 - 8.07	8.08 - 8.26	8.27 - 8.45	8.46 - 8.64	8.65 - 8.83	8.84 - 9.02	9.03 - 9.21	9.22 - 9.40	9.41 - 9.59	9.60 - 9.78	9.79 - 9.97	9.98 - 10.16	10.17 - 10.35	10.36 - 10.54	10.55 - 10.73	10.74 - 10.92	10.93 - 11.11	11.12 - 11.30	11.31 - 11.49	11.50 - 11.68	11.69 - 11.87	11.88 - 12.06	12.07 - 12.25	12.26 - 12.44	12.45 - 12.63	12.64 - 12.82	12.83 - 13.01	13.02 - 13.20	13.21 - 13.39	13.40 - 13.58	13.59 - 13.77	13.78 - 13.96	13.97 - 14.15	14.16 - 14.34	14.35 - 14.53	14.54 - 14.72	14.73 - 14.91	14.92 - 15.10	15.11 - 15.29	15.30 - 15.48	15.49 - 15.67	15.68 - 15.86	15.87 - 16.05	16.06 - 16.24	16.25 - 16.43	16.44 - 16.62	16.63 - 16.81	16.82 - 17.00	17.01 - 17.19	17.20 - 17.38	17.39 - 17.57	17.58 - 17.76	17.77 - 17.95	17.96 - 18.14	18.15 - 18.33	18.34 - 18.52	18.53 - 18.71	18.72 - 18.90	18.91 - 19.09	19.10 - 19.28	19.29 - 19.47	19.48 - 19.66	19.67 - 19.85	19.86 - 20.04	20.05 - 20.23	20.24 - 20.42	20.43 - 20.61	20.62 - 20.80	20.81 - 20.99	21.00 - 21.18	21.19 - 21.37	21.38 - 21.56	21.57 - 21.75	21.76 - 21.94	21.95 - 22.13	22.14 - 22.32	22.33 - 22.51	22.52 - 22.70	22.71 - 22.89	22.90 - 23.08	23.09 - 23.27	23.28 - 23.46	23.47 - 23.65	23.66 - 23.84	23.85 - 24.03	24.04 - 24.22	24.23 - 24.41	24.42 - 24.60	24.61 - 24.79	24.80 - 24.98	24.99 - 25.17	25.18 - 25.36	25.37 - 25.55	25.56 - 25.74	25.75 - 25.93	25.94 - 26.12	26.13 - 26.31	26.32 - 26.50	26.51 - 26.69	26.70 - 26.88	26.89 - 27.07	27.08 - 27.26	27.27 - 27.45	27.46 - 27.64	27.65 - 27.83	27.84 - 28.02	28.03 - 28.21	28.22 - 28.40	28.41 - 28.59	28.60 - 28.78	28.79 - 28.97	28.98 - 29.16	29.17 - 29.35	29.36 - 29.54	29.55 - 29.73	29.74 - 29.92	29.93 - 30.11	30.12 - 30.30	30.31 - 30.49	30.50 - 30.68	30.69 - 30.87	30.88 - 31.06	31.07 - 31.25	31.26 - 31.44	31.45 - 31.63	31.64 - 31.82	31.83 - 32.01	32.02 - 32.20	32.21 - 32.39	32.40 - 32.58	32.59 - 32.77	32.78 - 32.96	32.97 - 33.15	33.16 - 33.34	33.35 - 33.53	33.54 - 33.72	33.73 - 33.91	33.92 - 34.10	34.11 - 34.29	34.30 - 34.48	34.49 - 34.67	34.68 - 34.86	34.87 - 35.05	35.06 - 35.24	35.25 - 35.43	35.44 - 35.62	35.63 - 35.81	35.82 - 36.00	36.01 - 36.19	36.20 - 36.38	36.39 - 36.57	36.58 - 36.76	36.77 - 36.95	36.96 - 37.14	37.15 - 37.33	37.34 - 37.52	37.53 - 37.71	37.72 - 37.90	37.91 - 38.09	38.10 - 38.28	38.29 - 38.47	38.48 - 38.66	38.67 - 38.85	38.86 - 39.04	39.05 - 39.23	39.24 - 39.42	39.43 - 39.61	39.62 - 39.80	39.81 - 40.00	40.01 - 40.19	40.20 - 40.38	40.39 - 40.57	40.58 - 40.76	40.77 - 40.95	40.96 - 41.14	41.15 - 41.33	41.34 - 41.52	41.53 - 41.71	41.72 - 41.90	41.91 - 42.09	42.10 - 42.28	42.29 - 42.47	42.48 - 42.66	42.67 - 42.85	42.86 - 43.04	43.05 - 43.23	43.24 - 43.42	43.43 - 43.61	43.62 - 43.80	43.81 - 44.00	44.01 - 44.19	44.20 - 44.38	44.39 - 44.57	44.58 - 44.76	44.77 - 44.95	44.96 - 45.14	45.15 - 45.33	45.34 - 45.52	45.53 - 45.71	45.72 - 45.90	45.91 - 46.09	46.10 - 46.28	46.29 - 46.47	46.48 - 46.66	46.67 - 46.85	46.86 - 47.04	47.05 - 47.23	47.24 - 47.42	47.43 - 47.61	47.62 - 47.80	47.81 - 48.00	48.01 - 48.19	48.20 - 48.38	48.39 - 48.57	48.58 - 48.76	48.77 - 48.95	48.96 - 49.14	49.15 - 49.33	49.34 - 49.52	49.53 - 49.71	49.72 - 49.90	49.91 - 50.09	50.10 - 50.28	50.29 - 50.47	50.48 - 50.66	50.67 - 50.85	50.86 - 51.04	51.05 - 51.23	51.24 - 51.42	51.43 - 51.61	51.62 - 51.80	51.81 - 52.00	52.01 - 52.19	52.20 - 52.38	52.39 - 52.57	52.58 - 52.76	52.77 - 52.95	52.96 - 53.14	53.15 - 53.33	53.34 - 53.52	53.53 - 53.71	53.72 - 53.90	53.91 - 54.09	54.10 - 54.28	54.29 - 54.47	54.48 - 54.66	54.67 - 54.85	54.86 - 55.04	55.05 - 55.23	55.24 - 55.42	55.43 - 55.61	55.62 - 55.80	55.81 - 56.00	56.01 - 56.19	56.20 - 56.38	56.39 - 56.57	56.58 - 56.76	56.77 - 56.95	56.96 - 57.14	57.15 - 57.33	57.34 - 57.52	57.53 - 57.71	57.72 - 57.90	57.91 - 58.09	58.10 - 58.28	58.29 - 58.47	58.48 - 58.66	58.67 - 58.85	58.86 - 59.04	59.05 - 59.23	59.24 - 59.42	59.43 - 59.61	59.62 - 59.80	59.81 - 60.00	60.01 - 60.19	60.20 - 60.38	60.39 - 60.57	60.58 - 60.76	60.77 - 60.95	60.96 - 61.14	61.15 - 61.33	61.34 - 61.52	61.53 - 61.71	61.72 - 61.90	61.91 - 62.09	62.10 - 62.28	62.29 - 62.47	62.48 - 62.66	62.67 - 62.85	62.86 - 63.04	63.05 - 63.23	63.24 - 63.42	63.43 - 63.61	63.62 - 63.80	63.81 - 64.00	64.01 - 64.19	64.20 - 64.38	64.39 - 64.57	64.58 - 64.76	64.77 - 64.95	64.96 - 65.14	65.15 - 65.33	65.34 - 65.52	65.53 - 65.71	65.72 - 65.90	65.91 - 66.09	66.10 - 66.28	66.29 - 66.47	66.48 - 66.66	66.67 - 66.85	66.86 - 67.04	67.05 - 67.23	67.24 - 67.42	67.43 - 67.61	67.62 - 67.80	67.81 - 68.00	68.01 - 68.19	68.20 - 68.38	68.39 - 68.57	68.58 - 68.76	68.77 - 68.95	68.96 - 69.14	69.15 - 69.33	69.34 - 69.52	69.53 - 69.71	69.72 - 69.90	69.91 - 70.09	70.10 - 70.28	70.29 - 70.47	70.48 - 70.66	70.67 - 70.85	70.86 - 71.04	71.05 - 71.23	71.24 - 71.42	71.43 - 71.61	71.62 - 71.80	71.81 - 72.00	72.01 - 72.19	72.20 - 72.38	72.39 - 72.57	72.58 - 72.76	72.77 - 72.95	72.96 - 73.14	73.15 - 73.33	73.34 - 73.52	73.53 - 73.71	73.72 - 73.90	73.91 - 74.09	74.10 - 74.28	74.29 - 74.47	74.48 - 74.66	74.67 - 74.85	74.86 - 75.04	75.05 - 75.23	75.24 - 75.42	75.43 - 75.61	75.62 - 75.80	75.81 - 76.00	76.01 - 76.19	76.20 - 76.38	76.39 - 76.57	76.58 - 76.76	76.77 - 76.95	76.96 - 77.14	77.15 - 77.33	77.34 - 77.52	77.53 - 77.71	77.72 - 77.90	77.91 - 78.09	78.10 - 78.28	78.29 - 78.47	78.48 - 78.66	78.67 - 78.85	78.86 - 79.04	79.05 - 79.23	79.24 - 79.42	79.43 - 79.61	79.62 - 79.80	79.81 - 80.00	80.01 - 80.19	80.20 - 80.38	80.39 - 80.57	80.58 - 80.76	80.77 - 80.95	80.96 - 81.14	81.15 - 81.33	81.34 - 81.52	81.53 - 81.71	81.72 - 81.90	81.91 - 82.09	82.10 - 82.28	82.29 - 82.47	82.48 - 82.66	82.67 - 82.85	82.86 - 83.04	83.05 - 83.23	83.24 - 83.42	83.43 - 83.61	83.62 - 83.80	83.81 - 84.00	84.01 - 84.19	84.20 - 84.38	84.39 - 84.57	84.58 - 84.76	84.77 - 84.95	84.96 - 85.14	85.15 - 85.33	85.34 - 85.52	85.53 - 85.71	85.72 - 85.90	85.91 - 86.09	86.10 - 86.28	86.29 - 86.47	86.48 - 86.66	86.67 - 86.85	86.86 - 87.04	87.05 - 87.23	87.24 - 87.42	87.43 - 87.61	87.62 - 87.80	87.81 - 88.00	88.01 - 88.19	88.20 - 88.38	88.39 - 88.57	88.58 - 88.76	88.77 - 88.95	88.96 - 89.14	89.15 - 89.33	89.34 - 89.52	89.53 - 89.71	89.72 - 89.90	89.91 - 90.09	90.10 - 90.28	90.29 - 90.47	90.48 - 90.66	90.67 - 90.85	90.86 - 91.04	91.05 - 91.23	91.24 - 91.42	91.43 - 91.61	91.62 - 91.80	91.81 - 92.00	92.01 - 92.19	92.20 - 92.38	92.39 - 92.57	92.58 - 92.76	92.77 - 92.95	92.96 - 93.14	93.15 - 93.33	93.34 - 93.52	93.53 - 93.71	93.72 - 93.90	93.91 - 94.09	94.10 - 94.28	94.29 - 94.47	94.48 - 94.66	94.67 - 94.85	94.86 - 95.04	95.05 - 95.23	95.24 - 95.42	95.43 - 95.61	95.62 - 95.80	95.81 - 96.00	96.01 - 96.19	96.20 - 96.38	96.39 - 96.57	96.58 - 96.76	96.77 - 96.95	96.96 - 97.14	97.15 - 97.33	97.34 - 97.52	97.53 - 97.71	97.72 - 97.90	97.91 - 98.09	98.10 - 98.28	98.29 - 98.47	98.48 - 98.66	98.67 - 98.85	98.86 - 99.04	99.05 - 99.23	99.24 - 99.42	99.43 - 99.61	99.62 - 99.80	99.81 - 100.00	100.01 - 100.19	100.20 - 100.38	100.39 - 100.57	100.58 - 100.76	100.77 - 100.95	100.96 - 101.14	101.15 - 101.33	101.34 - 101.52	101.53 - 101.71	101.72 - 101.90	101.91 - 102.09	102.10 - 102.28	102.29 - 102.47	102.48 - 102.66	102.67 - 102.85	102.86 - 103.04	103.05 - 103.23	103.24 - 103.42	103.43 - 103.61	103.62 - 103.80	103.81 - 104.00	104.01 - 104.19	104.20 - 104.38	104.39 - 104.57	104.58 - 104.76	104.77 - 104.95	104.96 - 105.14	105.15 - 105.33	105.34 - 105.52	105.53 - 105.71	105.72 - 105.90	105.91 - 106.09	106.10 - 106.28	106.29 - 106.47	106.48 - 106.66	106.67 - 106.85	106.86 - 107.04	107.05 - 107.23	107.24 - 107.42	107.43 - 107.61	107.62 - 107.80	107.81 - 108.00	108.01 - 108.19	108.20 - 108.38	108.39 - 108.57	108.58 - 108.76	108.77 - 108.95	108.96 - 109.14	109.15 - 109.33	109.34 - 109.52	109.53 - 109.71	109.72 - 109.90	109.91 - 110.09	110.10 - 110.28	110.29 - 110.47	110.48 - 110.66	110.67 - 110.85	110.86 - 111.04	111.05 - 111.23	111.24 - 111.42	111.43 - 111.61	111.62 - 111.80	111.81 - 112.00	112.01 - 112.19	112.20 - 112.38	112.39 - 112.57	112.58 - 112.76	112.77 - 112.95	112.96 - 113.14	113.15 - 113.33	113.34 - 113.52	113.53 - 113.71	113.72 - 113.90	113.91 - 114.09	114.10 - 114.28	114.29 - 114.47	114.48 - 114.66	114.67 - 114.85	114.86 - 115.04	115.05 - 115.23	115.24 - 115.42	115.43 - 115.61	115.62 - 115.80	115.81 - 116.00	116.01 - 116.19	116.20 - 116.38	116.39 - 116.57	116.58 - 116.76	116.77 - 116.95	116.96 - 117.14	117.15 - 117.33	117.34 - 117.52	117.53 - 117.71	117.72 - 117.90	117.91 - 118.09	118.10 - 118.28	118.29 - 118.47	118.48 - 118.66	118.67 - 118.85	118.86 - 119.04	119.05 - 119.23	119.24 - 119.42	119.43 - 119.61	119.62 - 119.80	119.81 - 120.00	120.01 - 120.19	120.20 - 120.38	120.39 - 120.57	120.58 - 120.76	120.77 - 120.95	120.96 - 121.14	121.15 - 121.33	121.34 - 121.52	121.53 - 121.71	121.72 - 121.90	121.91 - 122.09	122.10 - 122.28	122.29 - 122.47	122.48 - 122.66	122.67 - 122.85	122.86 - 123.04	123.05 - 123.23	123.24 - 123.42	123.43 - 123.61	123.62 - 123.80	123.81 - 124.00	124.01 - 124.19	124.20 - 124.38	124.39 - 124.57	124.58 - 124.76	124.77 - 124.95	124.96 - 125.14	125.15 - 125.33	125.34 - 125.52	125.53 - 125.71	125.72 - 125.90	125.91 - 126.09	126.10 - 126.28	126.29 - 126.47	126.48 - 126.66	126.67 - 126.85	126.86 - 127.04	127.05 - 127.23	127.24 - 127.42	127.43 - 127.61	127.62 - 127.80	127.81 - 128.00	128.01 - 128.19	128.20 - 128.38	128.39 - 128.57	128.58 - 128.76	128.77 - 128.95	128.96 - 129.14	129.15 - 129.33	129.34 - 129.52	129.53 - 129.71	129.72 - 129.90	129.91 - 130.09	130.10 - 130.28	130.29 - 130.47	130.48 - 130.66	130.67 - 130.85	130.86 - 131.04	131.05 - 131.23	131.24 - 131.42	131.43 - 131.61	131.62 - 131.80	131.81 - 132.00	132.01 - 132.19	132.20 - 132.38	132.39 - 132.57	132.58 - 132.76	132.77 - 132.95	132.96 - 133.14	133.15 - 133.33	133.34 - 133.52	133.53 - 133.71	133.72 - 133.90	133.91 - 134.09	134.10 - 134.28	134.29 - 134.47	134.48 - 134.66	134.67 - 134.85	134.86 - 135.04	135.05 - 135.23	135.24 - 135.42	135.43 - 135.61	135.62 - 135.80	135.81 - 136.00	136.01 - 136.19	136.20 - 136.38	136.39 - 136.57	136.58 - 136.76	136.77 - 136.95	136.96 - 137.14	137.15 - 137.33	137.34 - 137.52	137.53 - 137.71	137.72 - 137.90	137.91 - 138.09	138.10 - 138.28	138.29 - 138.47	138.48 - 138.66	138.67 - 138.85	138.86 - 139.04	13
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Head Height

Head Height	4.04 - 4.23	4.24 - 4.43	4.44 - 4.63	4.64 - 4.83	4.84 - 5.03	5.04 - 5.23	5.24 - 5.43	5.44 - 5.63	5.64 - 5.83	5.84 - 6.03	6.04 - 6.23	
1	1	1	3	7	1	1	1	1	1	1	1	1
1	1	1	10	18	32	50	70	35	21	1	1	1
36	16	16	10	18	32	50	70	35	21	1	1	1
85	7	7	15	24	32	50	70	35	21	1	1	1
160	1	1	6	15	32	50	70	35	21	1	1	1
129	1	1	6	15	32	50	70	35	21	1	1	1
63	1	1	15	24	32	50	70	35	21	1	1	1
20	1	1	1	8	6	1	1	1	1	1	1	1
3	1	1	1	2	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1
500	2	32	106	207	109	34	6	3	1	1	1	1

Head Height

Head Breadth (x)
Head Height (y)Mean: 6.118
Mean: 4.986S.D.: .213
S.D.: .251x = .142y + 5.410
y = .196x + 3.787

	Head Breadth									
11.91 - 12.10										1
12.11 - 12.30	1									2
12.30 - 12.49										1
12.50 - 12.69										7
12.70 - 12.89										10
12.89 - 13.09	1									32
13.09 - 13.28										42
13.29 - 13.48										40
13.48 - 13.68										71
13.68 - 13.87										77
13.88 - 14.07										74
14.08 - 14.27										63
14.27 - 14.46										36
14.47 - 14.66										24
14.67 - 14.86										13
14.86 - 15.05										4
15.06 - 15.25										1
15.26 - 15.45										2
	2	32	106	207	109	34	6	3	1	500

Measurements are in Inches

Head Breadth (x)	Sagittal Arc (y)
1	1
1	2
1	3
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Mean: 6.118
Mean: 13.781

S.D.: .213
S.D.: .522

$$\begin{aligned} r &= .184 \\ x &= .075y + 5.084 \\ y &= .449x + 11.034 \end{aligned}$$

Head Length

12.30 - 12.49	6.79 - 6.98	7.18	7.38	7.57	7.77	7.97	8.16	8.36	8.56	8.75	
1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
5	5	5	5	5	5	5	5	5	5	5	5
11	11	11	11	11	11	11	11	11	11	11	11
29	29	29	29	29	29	29	29	29	29	29	29
38	38	38	38	38	38	38	38	38	38	38	38
68	68	68	68	68	68	68	68	68	68	68	68
76	76	76	76	76	76	76	76	76	76	76	76
94	94	94	94	94	94	94	94	94	94	94	94
61	61	61	61	61	61	61	61	61	61	61	61
67	67	67	67	67	67	67	67	67	67	67	67
22	22	22	22	22	22	22	22	22	22	22	22
21	21	21	21	21	21	21	21	21	21	21	21
4	4	4	4	4	4	4	4	4	4	4	4
2	2	2	2	2	2	2	2	2	2	2	2
500	500	500	500	500	500	500	500	500	500	500	500

Bitragion-Coronal Arc

r = .281
x = .167y + 5.448
y = .474x + 10.230

S.D.: .268
S.D.: .452

Mean: 7.772
Mean: 13.914

Head Length (x)
Bitragion-Coronal Arc (y)

Measurements are in Inches

Root Length

Measurements are in Inches	Head Length (x) Face Length (y)	Mean: 7.772 Mean: 4.671	S.D.: .268 S.D.: .244	r = .128 r = .139 + 7.123 r = .119x + 3.777					
6.79 - 6.92	1	4	81	132	85	26	2	4	500
6.39 - 6.48	1	4	34	131	132	85	26	2	500
7.19 - 7.28	1	4	34	131	132	85	26	2	500
7.39 - 7.57	1	4	34	131	132	85	26	2	500
7.58 - 7.77	1	4	34	131	132	85	26	2	500
7.78 - 7.97	1	4	34	131	132	85	26	2	500
7.97 - 8.15	1	4	34	131	132	85	26	2	500
8.17 - 8.35	1	4	34	131	132	85	26	2	500
8.37 - 8.56	1	4	34	131	132	85	26	2	500
8.56 - 8.75	1	4	34	131	132	85	26	2	500
4.68 - 4.15	1	4	34	131	132	85	26	2	500
4.15 - 4.23	1	4	34	131	132	85	26	2	500
4.23 - 4.31	1	4	34	131	132	85	26	2	500
4.31 - 4.38	1	4	34	131	132	85	26	2	500
4.39 - 4.46	1	4	34	131	132	85	26	2	500
4.47 - 4.54	1	4	34	131	132	85	26	2	500
4.55 - 4.62	1	4	34	131	132	85	26	2	500
4.63 - 4.70	1	4	34	131	132	85	26	2	500
4.71 - 4.78	1	4	34	131	132	85	26	2	500
4.78 - 4.85	1	4	34	131	132	85	26	2	500
4.86 - 4.94	1	4	34	131	132	85	26	2	500
4.94 - 5.01	1	4	34	131	132	85	26	2	500
5.02 - 5.09	1	4	34	131	132	85	26	2	500
5.10 - 5.17	1	4	34	131	132	85	26	2	500
5.18 - 5.25	1	4	34	131	132	85	26	2	500
5.26 - 5.33	1	4	34	131	132	85	26	2	500
5.34 - 5.41	1	4	34	131	132	85	26	2	500
5.41 - 5.49	1	4	34	131	132	85	26	2	500

Face Length

	Head Length											
	6.79 - 6.98	6.99 - 7.18	7.19 - 7.38	7.38 - 7.57	7.58 - 7.77	7.78 - 7.97	7.97 - 8.16	8.17 - 8.36	8.37 - 8.56	8.56 - 8.75		
5.41 - 5.60				1	1						2	
5.61 - 5.80			2	8	7	8	6	1			32	
5.81 - 6.00		3	6	21	18	35	14	8	1		106	
6.00 - 6.20			10	32	67	47	40	8	1	2	207	
6.20 - 6.39	1		14	15	29	28	16	6			109	
6.40 - 6.59		1	2	4	7	7	8	3	2		34	
6.60 - 6.79					1	4	1				6	
6.79 - 6.98					1	2					3	
6.99 - 7.18						1					1	
	1	4	34	81	131	132	85	26	2	4	500	
ts are in Inches		Head Length (x)										r = .073 x = .09ly + 7.215 y = .058x + 5.667
		Head Breadth (y)										S.D. x .268 S.D. y .213

Head Circumference	6.79 - 6.98	6.99 - 7.18	7.19 - 7.38	7.38 - 7.57	7.58 - 7.77	7.78 - 7.97	7.97 - 8.16	8.17 - 8.36	8.37 - 8.56	8.56 - 8.75
21.17 - 21.16				1						1
21.16 - 21.35	1	1	2							4
21.36 - 21.55		2	4	10	1					17
21.56 - 21.75			7	9	3	3	1			27
21.75 - 21.94			7	12	8	2	1			31
21.95 - 22.14			9	23	20	7	1			60
22.15 - 22.34			2	9	27	17	1			56
22.34 - 22.53		1	2	8	35	23	5	1		75
22.54 - 22.73			1	4	20	27	11	1		64
22.74 - 22.93					16	25	29	1		71
22.93 - 23.12					1	12	11	4	1	29
23.13 - 23.32						9	12	8	1	30
23.33 - 23.52						5	7	4	2	18
23.52 - 23.72						1	4	6		11
23.72 - 23.91						1	2	1		4
23.92 - 24.11									2	2
	1	4	34	81	131	132	85	26	2	4
										500

Measurements are in Inches

Head Length (x)
 Head Circumference (y)

Mean: 7.772
 S.D.: .268
 Mean: 22.689
 S.D.: .545

$r = .776$
 $x = .382y - .819$
 $y = 1.576x + 10.240$

Head Length											
Head Height	Head Length (x)	Head Height (y)	Mean: 7.772	S.D.: .268	r= .257	x= .275y + 6.401	y= .240x + 3.121				
6.79 - 6.98	1	4	34	81	131	132	85	26	2	4	500
6.99 - 7.18		1	5	11	7	6	5	1			
7.19 - 7.38			7	17	25	18	15	1			
7.38 - 7.57			11	30	48	31	26	9			
7.58 - 7.77			17	48	34	45	18	7			
7.78 - 7.97			25	81	51	62	31	1			
7.97 - 8.16			34	104	68	85	45	1			
8.17 - 8.36			48	132	85	104	62	1			
8.37 - 8.56			62	160	104	129	77	1			
8.56 - 8.75			77	160	129	160	104	1			

Shoulder Breadth

Arm Reach, Forward	15.0 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0
30.7 - 31.4				1	1				2
31.5 - 32.2		1	1	1					3
32.3 - 33.0		1		3	2				6
33.1 - 33.8		1	4	13	3	2	1		24
33.9 - 34.6		2	11	20	14	1	1		49
34.7 - 35.4		4	7	35	23	8	2		79
35.5 - 36.2	1	1	13	42	37	20	4	1	120
36.3 - 37.0		1	8	27	32	21	10	1	100
37.0 - 37.7			2	14	30	7	4		58
37.8 - 38.5				8	17	10	5		40
38.6 - 39.3					7	2	2	1	12
39.4 - 40.1					2	4	1		7
	1	11	46	164	168	75	30	3	500

Measurements are in Inches

Shoulder Breadth (x)
Arm Reach, Forward (y)Mean: 18.268
Mean: 36.009S.D.: .875
S.D.: 1.465r = .356
x = .212y + 10.634
y = .596x + 25.121

Shoulder Breadth		15.7 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0	
48.1 - 48.8	1	1	1	1	1						1
48.8 - 49.5			2								2
49.6 - 50.3	1	1	2	10	3	1					17
50.4 - 51.1	1	1	2	12	7	2		1			25
51.2 - 51.9	2	2	8	16	7	1					34
52.0 - 52.7	2	2	8	20	12	4		1			47
52.8 - 53.5	1	1	4	32	24	9		4			74
53.6 - 54.3		1	7	23	25	14					70
54.4 - 55.1	1	1	5	29	33	13		4	1		87
55.1 - 55.8		1	3	11	18	9		7			49
55.9 - 56.6			3	3	19	9		8		1	43
56.7 - 57.4			1	4	10	7		2	1	1	26
57.5 - 58.2				1	5	2		1	1		10
58.3 - 59.0				2	4	4		2			12
59.1 - 59.8					1						1
	1	11	46	164	168	75	30	3	2	500	

Measurements are in Inches

Shoulder Breadth (x)
Arm Reach, Upward (y)

Mean: 18.268
Mean: 54.047

S.D.: .875
S.D.: 2.048

$$\begin{aligned} r &= .395 \\ x &= .169y + 9.134 \\ y &= .925x + 37.149 \end{aligned}$$

Shoulder Breadth

Buttock-Knee Length	15.0 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0	
20.5 - 21.2	1			2						2
21.3 - 22.0		1	6	10	3					20
22.1 - 22.8		3	11	28	15	5	1			63
22.9 - 23.6		3	17	53	41	19	2	2		137
23.6 - 24.3		4	6	49	58	16	8			141
24.4 - 25.1	1		6	13	31	20	13		1	85
25.2 - 25.9				7	15	9	2	1	1	35
26.0 - 26.7				2	4	5	3			14
26.8 - 27.5						1	1			2
27.6 - 28.3					1					1
	1	11	46	164	168	75	30	3	2	500

Measurements are in Inches

Shoulder Breadth (x)

Mean: 18.268

 $r = .364$ $x = .295y + 11.242$

S.D.: .875

 $y = .451x + 15.579$

S.D.: 1.082

Shoulder Breadth

Eye Height, Sitting	15.0 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0	
27.6 - 28.3		1		3	2	1				7
28.4 - 29.1		1	4	10	12	4				31
29.2 - 29.9		3	9	29	19	9				69
30.0 - 30.7		3	11	46	38	15	6	1		120
30.7 - 31.4	1	2	9	37	44	18	10			121
31.5 - 32.2		1	7	27	25	12	9		1	82
32.3 - 33.0			5	7	20	10	3			45
33.1 - 33.8			1	3	4	4	1	2	1	16
33.9 - 34.6				1	3	1				5
34.7 - 35.4				1	1	1				3
35.5 - 36.2							1			1
	1	11	46	164	168	75	30	3	2	500

Measurements are in Inches

Shoulder Breadth (x)
Eye Height, Sitting (y)Mean: 18.268
Mean: 30.904S.D.: .875
S.D.: 1.281r = .245
x = .167y + 13.107
y = .358x + 24.364

Shoulder Breadth

Leg Length, Sitting	15.0 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0	
39.4 - 40.1				1						1
40.2 - 40.9		1	2	1		1				5
41.0 - 41.7			2	3	1	1				7
41.8 - 42.5		1	2	13	4	3				23
42.5 - 43.2		3	7	19	10	4	1			44
43.3 - 44.0	1	1	9	26	22	7	2			68
44.1 - 44.8		2	11	34	38	9	3	1		98
44.9 - 45.6		1	2	30	32	13	5	1		84
45.7 - 46.4		1	8	17	26	19	7			78
46.5 - 47.2		1	2	11	23	5	5		2	49
47.3 - 48.0			1	9	9	10	5	1		35
48.1 - 48.8					3	3	2			8
	1	11	46	164	168	75	30	3	2	500

$r = .317$
 $x = .170y + 10.631$
 $y = .593x + 34.090$

S.D.: .875
 S.D.: 1.635

Mean: 18.268
 Mean: 44.923

Shoulder Breadth (x)
 Leg Length, Sitting (y)

Measurements are in Inches

Shoulder Breadth

Seat Width, Sitting	11.81 - 12.20	12.21 - 12.59	12.60 - 12.98	12.99 - 13.38	13.39 - 13.77	13.78 - 14.16	14.17 - 14.56	14.57 - 14.95	14.96 - 15.34	15.35 - 15.74	15.75 - 16.13	16.14 - 16.53	16.54 - 16.92	16.93 - 17.31	1	11	46	164	168	75	30	3	2	500
15.0 - 15.7						1																		
15.8 - 16.5	3	2	1	6	11	9	28	29	11	5														
16.5 - 17.2																								
17.3 - 18.0																								
18.1 - 18.8																								
18.9 - 19.6																								
19.7 - 20.4																								
20.5 - 21.2																								
21.3 - 22.0																								

Measurements are in Inches

Shoulder Breadth (x)
Seat Width, Sitting (y)

Mean: 18.268
Mean: 14.187

S.D.: .875
S.D.: .872

r = .483

x = .485y + 11.287
y = .481x + 5.100

Shoulder Breadth

Sitting Height	15.0 - 15.7	15.8 - 16.5	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0
31.5 - 32.2	1	1	1		1				3
32.3 - 33.0			1	4	1	2			8
33.1 - 33.8		2	3	12	5	3	1		26
33.9 - 34.6		4	10	34	18	5	1		72
34.7 - 35.4		2	12	41	42	14	2	1	114
35.5 - 36.2		1	11	36	44	21	12		126
36.3 - 37.0	1		5	20	31	15	8		81
37.0 - 37.7		1	2	14	16	9	5	1	48
37.8 - 38.5			1	2	6	5	1	1	16
38.6 - 39.3				1	4				5
39.4 - 40.1						1			1
	1	11	46	164	168	75	30	3	2
									500

Measurements are in Inches

Shoulder Breadth (x)
Sitting Height (y)Mean: 18.268
Mean: 35.608S.D.: .875
S.D.: 1.271r = .272
x = .187x + 11.609
y = .395x + 28.392

Sitting Height

[illegible]

Measurements are in Inches

Sitting Height (x)
Arm Reach, Forward (y)

Mean: 35.608
Mean: 36.009

S.D.: 1.27,
S.D.: 1.1, 5

$$\begin{aligned} r &= .327 \\ x &= .283y + 25.47 \\ y &= .377x + 22.585 \end{aligned}$$

Sitting Height

Arm Reach, Upward	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	
48.1 - 48.8			2	1								3
48.8 - 49.5				1		1						2
49.6 - 50.3	1	2	1	7	5		1					17
50.4 - 51.1		4	9	4	6	1		1				25
51.2 - 51.9		1	4	14	9	4	1	1				34
52.0 - 52.7		1	5	14	17	9	1					47
52.8 - 53.5	1		1	11	21	30	9		1			74
53.6 - 54.3	1		2	12	19	16	13	7				70
54.4 - 55.1			2	5	23	28	21	8				87
55.2 - 55.8				2	9	19	11	6	2			49
55.9 - 56.6				1	4	10	12	10	6			43
56.7 - 57.4					1	4	8	10	2	1		26
57.5 - 58.2						3	2	2	2		1	10
58.3 - 59.0						1	1	3	3	4		12
59.1 - 59.8							1					1
	3	8	26	72	114	126	81	48	16	5	1	500

Measurements are in Inches

Sitting Height (x)
Arm Reach, Upward (y)

Mean: 35.608
Mean: 54.047

S.D.: 1.271
S.D.: 2.048

$r = .641$
 $x = .398y + 14.097$
 $y = 1.032x + 17.310$

20.5 - 21.2	21.3 - 22.0	22.1 - 22.8	22.9 - 23.6	23.6 - 24.3	24.4 - 25.1	25.2 - 25.9	26.0 - 26.7	26.8 - 27.5	27.6 - 28.3
31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3
3	8	26	72	114	126	81	49	16	5

Measurements are in Inches

Sitting Height (x)
Buttock-Knee Length (y)

Mean: 35.608
Mean: 23.818

S.D.: 1.271
S.D.: 1.082

$$354 + 25.414 + 12.780$$

Sitting Height

Eye Height, Sitting	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	
27.6 - 28.3	1	1	3	1		1						7
28.4 - 29.1		6	12	12	1							31
29.2 - 29.9		1	8	35	22	3						69
30.0 - 30.7	1		3	22	57	28	9					120
30.7 - 31.4	1			2	32	58	26	2				121
31.5 - 32.2					1	29	30	19	2	1		82
32.3 - 33.0						6	12	20	7			45
33.1 - 33.8							4	4	6	2		16
33.9 - 34.6					1	1		1	1	1		5
34.7 - 35.4								1		1	1	3
35.5 - 36.2								1				1
	3	8	26	72	114	126	81	48	16	5	1	500

Measurements are in Inches

Sitting Height (x)
Eye Height, Sitting (y)Mean: 35.608
Mean: 30.904S.D.: 1.271
S.D.: 1.281 $r = .828$ $x = .821y + 10.236$ $y = .835x + 1.171$

Sitting Height

Log Length, Sitting	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	
39.4 - 40.1					1							1
40.2 - 40.9			1	2		2						5
41.0 - 41.7			1	2	3	1						7
41.8 - 42.5		1	4	6	3	2	2					23
42.5 - 43.2	1		7	11	14	10	2	2				44
43.3 - 44.0	1		4	15	19	16	9	4				68
44.1 - 44.8		5	3	17	26	23	15	7	2			98
44.9 - 45.6		1	4	7	15	25	17	10	3	1	1	84
45.7 - 46.4	1	1	1	6	19	20	11	9	3	1		78
46.5 - 47.2				3	10	10	14	7	5			49
47.3 - 48.0			1	3	2	8	7	8	3	3		35
48.1 - 48.8						3	4	1				8
	3	5	26	72	114	120	81	48	10	5	1	500

$$r = .392$$

$$x = .505y + 21.906$$

$$y = .504x + 26.977$$

$$S.D.: 1.271$$

$$S.D.: 1.635$$

$$\text{Mean: } 35.608$$

$$\text{Mean: } 44.923$$

$$\text{Sitting Height (x)}$$

$$\text{Leg Length, Sitting (y)}$$

Measurements are in Inches

Sitting Height

Seat Width, Sitting	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	
11.81 - 12.20						1		1				2
12.21 - 12.59			1	2	3	2						4
12.60 - 12.98	2		3	10	2	4	2	1				24
12.99 - 13.38	1	2	4	18	17	14	2	3	1			62
13.39 - 13.77		3	4	16	23	17	8	6	1			78
13.78 - 14.16		2	1	11	24	17	18	4	1	1		79
14.17 - 14.56			6	9	17	27	18	7	1	1		98
14.57 - 14.95		1	2	4	15	19	12	11	3			66
14.96 - 15.34			3	1	8	9	9	5	2	1	1	59
15.35 - 15.74					4	14	7	5	2	2		54
15.75 - 16.13				1	1	2	2	3	3			12
16.14 - 16.53						1	2	1	2			6
16.54 - 16.92							1					1
16.93 - 17.31								1				1
	3	8	26	72	114	126	81	45	16	5	1	500

$r = .392$
 $x = .571y + 27.507$
 $y = .269x + 4.608$

Mean: 35.608 S.D.: 1.271
Mean: 14.187 S.D.: .872

Measurements are in Inches

Sitting Height (x)
Seat Width, Sitting (y)

Sitting Height

Shoulder-Elbow Length	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	
12.21 - 12.59					1							1
12.60 - 12.98				1								1
12.99 - 13.38			1	1								2
13.39 - 13.77			1	4	5	3						13
13.78 - 14.16			7	14	12	4	4	2				43
14.17 - 14.56		4	8	15	18	23	8	7				81
14.57 - 14.95	2	4	7	14	21	30	16	3	1			98
14.96 - 15.34	1			15	23	30	21	14	7			109
15.35 - 15.74			3	6	18	18	20	12	2	1	1	81
15.75 - 16.13			1	2	11	13	8	7	4	3		49
16.14 - 16.53				2	5	4	3		2	1		17
16.54 - 16.92						1		2				3
16.93 - 17.31							1	1				2
	3	8	26	72	114	126	81	48	16	5	1	500

$r = .355$
 $x = .643y + 25.969$
 $y = .196x + 8.012$

$S.D.: 1.271$
 $S.D.: .702$

$Mean: 35.608$
 $Mean: 14.991$

$Sitting Height (x)$
 $Shoulder-Elbow length (y)$

Measurements are in Inches

[illegible]

Measurements are in Inches	Stature (x)	Mean: 69.197	S.D.: 2.251	$x = .766y + 27.016$	$r = .716$
	Arm Reach, Upward (y)	Mean: 54.047	S.D.: 2.048	$y = .651x + 8.804$	

Stature

14.2 - 14.9	1	1	2	1	1	70.5 - 71.2	71.2 - 71.9	71.9 - 72.6	72.6 - 73.3	73.3 - 74.0	74.0 - 74.7	74.7 - 75.4	75.4 - 76.1	76.1 - 76.8	76.8 - 77.5	77.5 - 78.2	78.2 - 78.9	78.9 - 79.6	79.6 - 80.3	80.3 - 81.0	81.0 - 81.7	81.7 - 82.4	82.4 - 83.1	83.1 - 83.8	83.8 - 84.5	84.5 - 85.2	85.2 - 85.9	85.9 - 86.6	86.6 - 87.3	87.3 - 88.0	88.0 - 88.7	88.7 - 89.4	89.4 - 90.1	90.1 - 90.8	90.8 - 91.5	91.5 - 92.2	92.2 - 92.9	92.9 - 93.6	93.6 - 94.3	94.3 - 95.0	95.0 - 95.7	95.7 - 96.4	96.4 - 97.1	97.1 - 97.8	97.8 - 98.5	98.5 - 99.2	99.2 - 99.9	100.0 - 100.7	100.7 - 101.4	101.4 - 102.1	102.1 - 102.8	102.8 - 103.5	103.5 - 104.2	104.2 - 104.9	104.9 - 105.6	105.6 - 106.3	106.3 - 107.0	107.0 - 107.7	107.7 - 108.4	108.4 - 109.1	109.1 - 109.8	109.8 - 110.5	110.5 - 111.2	111.2 - 111.9	111.9 - 112.6	112.6 - 113.3	113.3 - 114.0	114.0 - 114.7	114.7 - 115.4	115.4 - 116.1	116.1 - 116.8	116.8 - 117.5	117.5 - 118.2	118.2 - 118.9	118.9 - 119.6	119.6 - 120.3	120.3 - 121.0	121.0 - 121.7	121.7 - 122.4	122.4 - 123.1	123.1 - 123.8	123.8 - 124.5	124.5 - 125.2	125.2 - 125.9	125.9 - 126.6	126.6 - 127.3	127.3 - 128.0	128.0 - 128.7	128.7 - 129.4	129.4 - 130.1	130.1 - 130.8	130.8 - 131.5	131.5 - 132.2	132.2 - 132.9	132.9 - 133.6	133.6 - 134.3	134.3 - 135.0	135.0 - 135.7	135.7 - 136.4	136.4 - 137.1	137.1 - 137.8	137.8 - 138.5	138.5 - 139.2	139.2 - 139.9	139.9 - 140.6	140.6 - 141.3	141.3 - 142.0	142.0 - 142.7	142.7 - 143.4	143.4 - 144.1	144.1 - 144.8	144.8 - 145.5	145.5 - 146.2	146.2 - 146.9	146.9 - 147.6	147.6 - 148.3	148.3 - 149.0	149.0 - 149.7	149.7 - 150.4	150.4 - 151.1	151.1 - 151.8	151.8 - 152.5	152.5 - 153.2	153.2 - 153.9	153.9 - 154.6	154.6 - 155.3	155.3 - 156.0	156.0 - 156.7	156.7 - 157.4	157.4 - 158.1	158.1 - 158.8	158.8 - 159.5	159.5 - 160.2	160.2 - 160.9	160.9 - 161.6	161.6 - 162.3	162.3 - 163.0	163.0 - 163.7	163.7 - 164.4	164.4 - 165.1	165.1 - 165.8	165.8 - 166.5	166.5 - 167.2	167.2 - 167.9	167.9 - 168.6	168.6 - 169.3	169.3 - 170.0	170.0 - 170.7	170.7 - 171.4	171.4 - 172.1	172.1 - 172.8	172.8 - 173.5	173.5 - 174.2	174.2 - 174.9	174.9 - 175.6	175.6 - 176.3	176.3 - 177.0	177.0 - 177.7	177.7 - 178.4	178.4 - 179.1	179.1 - 179.8	179.8 - 180.5	180.5 - 181.2	181.2 - 181.9	181.9 - 182.6	182.6 - 183.3	183.3 - 184.0	184.0 - 184.7	184.7 - 185.4	185.4 - 186.1	186.1 - 186.8	186.8 - 187.5	187.5 - 188.2	188.2 - 188.9	188.9 - 189.6	189.6 - 190.3	190.3 - 191.0	191.0 - 191.7	191.7 - 192.4	192.4 - 193.1	193.1 - 193.8	193.8 - 194.5	194.5 - 195.2	195.2 - 195.9	195.9 - 196.6	196.6 - 197.3	197.3 - 198.0	198.0 - 198.7	198.7 - 199.4	199.4 - 200.1	200.1 - 200.8	200.8 - 201.5	201.5 - 202.2	202.2 - 202.9	202.9 - 203.6	203.6 - 204.3	204.3 - 205.0	205.0 - 205.7	205.7 - 206.4	206.4 - 207.1	207.1 - 207.8	207.8 - 208.5	208.5 - 209.2	209.2 - 209.9	209.9 - 210.6	210.6 - 211.3	211.3 - 212.0	212.0 - 212.7	212.7 - 213.4	213.4 - 214.1	214.1 - 214.8	214.8 - 215.5	215.5 - 216.2	216.2 - 216.9	216.9 - 217.6	217.6 - 218.3	218.3 - 219.0	219.0 - 219.7	219.7 - 220.4	220.4 - 221.1	221.1 - 221.8	221.8 - 222.5	222.5 - 223.2	223.2 - 223.9	223.9 - 224.6	224.6 - 225.3	225.3 - 226.0	226.0 - 226.7	226.7 - 227.4	227.4 - 228.1	228.1 - 228.8	228.8 - 229.5	229.5 - 230.2	230.2 - 230.9	230.9 - 231.6	231.6 - 232.3	232.3 - 233.0	233.0 - 233.7	233.7 - 234.4	234.4 - 235.1	235.1 - 235.8	235.8 - 236.5	236.5 - 237.2	237.2 - 237.9	237.9 - 238.6	238.6 - 239.3	239.3 - 240.0	240.0 - 240.7	240.7 - 241.4	241.4 - 242.1	242.1 - 242.8	242.8 - 243.5	243.5 - 244.2	244.2 - 244.9	244.9 - 245.6	245.6 - 246.3	246.3 - 247.0	247.0 - 247.7	247.7 - 248.4	248.4 - 249.1	249.1 - 249.8	249.8 - 250.5	250.5 - 251.2	251.2 - 251.9	251.9 - 252.6	252.6 - 253.3	253.3 - 254.0	254.0 - 254.7	254.7 - 255.4	255.4 - 256.1	256.1 - 256.8	256.8 - 257.5	257.5 - 258.2	258.2 - 258.9	258.9 - 259.6	259.6 - 260.3	260.3 - 261.0	261.0 - 261.7	261.7 - 262.4	262.4 - 263.1	263.1 - 263.8	263.8 - 264.5	264.5 - 265.2	265.2 - 265.9	265.9 - 266.6	266.6 - 267.3	267.3 - 268.0	268.0 - 268.7	268.7 - 269.4	269.4 - 270.1	270.1 - 270.8	270.8 - 271.5	271.5 - 272.2	272.2 - 272.9	272.9 - 273.6	273.6 - 274.3	274.3 - 275.0	275.0 - 275.7	275.7 - 276.4	276.4 - 277.1	277.1 - 277.8	277.8 - 278.5	278.5 - 279.2	279.2 - 279.9	279.9 - 280.6	280.6 - 281.3	281.3 - 282.0	282.0 - 282.7	282.7 - 283.4	283.4 - 284.1	284.1 - 284.8	284.8 - 285.5	285.5 - 286.2	286.2 - 286.9	286.9 - 287.6	287.6 - 288.3	288.3 - 289.0	289.0 - 289.7	289.7 - 290.4	290.4 - 291.1	291.1 - 291.8	291.8 - 292.5	292.5 - 293.2	293.2 - 293.9	293.9 - 294.6	294.6 - 295.3	295.3 - 296.0	296.0 - 296.7	296.7 - 297.4	297.4 - 298.1	298.1 - 298.8	298.8 - 299.5	299.5 - 300.2	300.2 - 300.9	300.9 - 301.6	301.6 - 302.3	302.3 - 303.0	303.0 - 303.7	303.7 - 304.4	304.4 - 305.1	305.1 - 305.8	305.8 - 306.5	306.5 - 307.2	307.2 - 307.9	307.9 - 308.6	308.6 - 309.3	309.3 - 310.0	310.0 - 310.7	310.7 - 311.4	311.4 - 312.1	312.1 - 312.8	312.8 - 313.5	313.5 - 314.2	314.2 - 314.9	314.9 - 315.6	315.6 - 316.3	316.3 - 317.0	317.0 - 317.7	317.7 - 318.4	318.4 - 319.1	319.1 - 319.8	319.8 - 320.5	320.5 - 321.2	321.2 - 321.9	321.9 - 322.6	322.6 - 323.3	323.3 - 324.0	324.0 - 324.7	324.7 - 325.4	325.4 - 326.1	326.1 - 326.8	326.8 - 327.5	327.5 - 328.2	328.2 - 328.9	328.9 - 329.6	329.6 - 330.3	330.3 - 331.0	331.0 - 331.7	331.7 - 332.4	332.4 - 333.1	333.1 - 333.8	333.8 - 334.5	334.5 - 335.2	335.2 - 335.9	335.9 - 336.6	336.6 - 337.3	337.3 - 338.0	338.0 - 338.7	338.7 - 339.4	339.4 - 340.1	340.1 - 340.8	340.8 - 341.5	341.5 - 342.2	342.2 - 342.9	342.9 - 343.6	343.6 - 344.3	344.3 - 345.0	345.0 - 345.7	345.7 - 346.4	346.4 - 347.1	347.1 - 347.8	347.8 - 348.5	348.5 - 349.2	349.2 - 349.9	349.9 - 350.6	350.6 - 351.3	351.3 - 352.0	352.0 - 352.7	352.7 - 353.4	353.4 - 354.1	354.1 - 354.8	354.8 - 355.5	355.5 - 356.2	356.2 - 356.9	356.9 - 357.6	357.6 - 358.3	358.3 - 359.0	359.0 - 359.7	359.7 - 360.4	360.4 - 361.1	361.1 - 361.8	361.8 - 362.5	362.5 - 363.2	363.2 - 363.9	363.9 - 364.6	364.6 - 365.3	365.3 - 366.0	366.0 - 366.7	366.7 - 367.4	367.4 - 368.1	368.1 - 368.8	368.8 - 369.5	369.5 - 370.2	370.2 - 370.9	370.9 - 371.6	371.6 - 372.3	372.3 - 373.0	373.0 - 373.7	373.7 - 374.4	374.4 - 375.1	375.1 - 375.8	375.8 - 376.5	376.5 - 377.2	377.2 - 377.9	377.9 - 378.6	378.6 - 379.3	379.3 - 380.0	380.0 - 380.7	380.7 - 381.4	381.4 - 382.1	382.1 - 382.8	382.8 - 383.5	383.5 - 384.2	384.2 - 384.9	384.9 - 385.6	385.6 - 386.3	386.3 - 387.0	387.0 - 387.7	387.7 - 388.4	388.4 - 389.1	389.1 - 389.8	389.8 - 390.5	390.5 - 391.2	391.2 - 391.9	391.9 - 392.6	392.6 - 393.3	393.3 - 394.0	394.0 - 394.7	394.7 - 395.4	395.4 - 396.1	396.1 - 396.8	396.8 - 397.5	397.5 - 398.2	398.2 - 398.9	398.9 - 399.6	399.6 - 400.3	400.3 - 401.0	401.0 - 401.7	401.7 - 402.4	402.4 - 403.1	403.1 - 403.8	403.8 - 404.5	404.5 - 405.2	405.2 - 405.9	405.9 - 406.6	406.6 - 407.3	407.3 - 408.0	408.0 - 408.7	408.7 - 409.4	409.4 - 410.1	410.1 - 410.8	410.8 - 411.5	411.5 - 412.2	412.2 - 412.9	412.9 - 413.6	413.6 - 414.3	414.3 - 415.0	415.0 - 415.7	415.7 - 416.4	416.4 - 417.1	417.1 - 417.8	417.8 - 418.5	418.5 - 419.2	419.2 - 419.9	419.9 - 420.6	420.6 - 421.3	421.3 - 422.0	422.0 - 422.7	422.7 - 423.4	423.4 - 424.1	424.1 - 424.8	424.8 - 425.5	425.5 - 426.2	426.2 - 426.9	426.9 - 427.6	427.6 - 428.3	428.3 - 429.0	429.0 - 429.7	429.7 - 430.4	430.4 - 431.1	431.1 - 431.8	431.8 - 432.5	432.5 - 433.2	433.2 - 433.9	433.9 - 434.6	434.6 - 435.3	435.3 - 436.0	436.0 - 436.7	436.7 - 437.4	437.4 - 438.1	438.1 - 438.8	438.8 - 439.5	439.5 - 440.2	440.2 - 440.9	440.9 - 441.6	441.6 - 442.3	442.3 - 443.0	443.0 - 443.7	443.7 - 444.4	444.4 - 445.1	445.1 - 445.8	445.8 - 446.5	446.5 - 447.2	447.2 - 447.9	447.9 - 448.6	448.6 - 449.3	449.3 - 450.0	450.0 - 450.7	450.7 - 451.4	451.4 - 452.1	452.1 - 452.8	452.8 - 453.5	453.5 - 454.2	454.2 - 454.9	454.9 - 455.6	455.6 - 456.3	456.3 - 457.0	457.0 - 457.7	457.7 - 458.4	458.4 - 459.1	459.1 - 459.8	459.8 - 460.5	460.5 - 461.2	461.2 - 461.9	461.9 - 462.6	462.6 - 463.3	463.3 - 464.0	464.0 - 464.7	464.7 - 465.4	465.4 - 466.1	466.1 - 466.8	466.8 - 467.5	467.5 - 468.2	468.2 - 468.9	468.9 - 469.6	469.6 - 470.3	470.3 - 471.0	471.0 - 471.7	471.7 - 472.4	472.4 - 473.1	473.1 - 473.8	473.8 - 474.5	474.5 - 475.2	475.2 - 475.9	475.9 - 476.6	476.6 - 477.3	477.3 - 478.0	478.0 - 478.7	478.7 - 479.4	479.4 - 480.1	480.1 - 480.8	480.8 - 481.5	481.5 - 482.2	482.2 - 482.9	482.9 - 483.6	483.6 - 484.3	484.3 - 485.0	485.0 - 485.7	485.7 - 486.4	486.4 - 487.1	487.1 - 487.8	487.8 - 488.5	488.5 - 489.2	489.2 - 489.9	489.9 - 490.6	490.6 - 491.3	491.3 - 492.0	492.0 - 492.7	492.7 - 493.4	493.4 - 494.1	494.1 - 494.8	494.8 - 495.5	495.5 - 496.2	496.2 - 496.9	496.9 - 497.6	497.6 - 498.3	498.3 - 499.0	499.0 - 499.7	499.7 - 500.4	500.4 - 501.1	501.1 - 501.8	501.8 - 502.5	502.5 - 503.2	503.2 - 503.9	503.9 - 504.6	504.6 - 505.3	505.3 - 506.0	506.0 - 506.7	506.7 - 507.4	507.4 - 508.1	508.1 - 508.8	508.8 - 509.5	509.5 - 510.2	510.2 - 510.9	510.9 - 511.6	511.6 - 512.3	512.3 - 513.0	513.0 - 513.7	513.7 - 514.4	514.4 - 515.1	515.1 - 515.8	515.8 - 516.5	516.5 - 517.2	517.2 - 517.9	517.9 - 518.6	518.6 - 519.3	519.3 - 520.0	520.0 - 520.7	520.7 - 521.4	521.4 - 522.1	522.1 - 522.8	522.8 - 523.5	523.5 - 524.2	524.2 - 524.9	524.9 - 525.6	525.6 - 526.3	526.3 - 527.0	527.0 - 527.7	527.7 - 528.4	528.4 - 529.1	529.1 - 529.8	529.8 - 530.5	530.5 - 531.2	531.2 - 531.9	531.9 - 532.6	532.6 - 533.3	533.3 - 534.0	534.0 - 534.7	534.7 - 535.4	535.4 - 536.1	536.1 - 536.8	536.8 - 537.5	537.5 - 538.2	538.2 - 538.9	538.9 - 539.6	539.6 - 540.3	540.3 - 541.0	541.0 - 541.7	541.7 - 542.4	542.4 - 543.1	543.1 - 543.8	543.8 - 544.5	544.5 - 545.2	545.2 - 545.9	545.9 - 546.6	546.6 - 547.3	547.3 - 548.0	548.0 - 548.7	548.7 - 549.4	549.4 - 550.1	550.1 - 550.8	550.8 - 551.5	551.5 - 552.2	552.2 - 552.9	552.9 - 553.6	553.6 - 554.3	554.3 - 555.0	555.0 - 555.7	555.7 - 556.4	556.4 - 557.1	557.1 - 557.8	557.8 - 558.5	558.5 - 559.2	559.2 - 559.9	559.9 - 560.6	560.6 - 561.3	561.3 - 562.0	562.0 - 562.7	562.7 - 563.4	563.4 - 564.1	564.1 - 564.8	564.8 - 565.5	565.5 - 566.2	566.2 - 566.9	566.9 - 567.6	567.6 - 568.3	568.3 - 569.0	569.0 - 569.7	569.7 - 570.4	570.4 - 571.1	571.1 - 571.8	571.8 - 572.5	572.5 - 573.2	573.2 - 573.9	573.9 - 574.6	574.6 - 575.3	575.3 - 5
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21.2	1	2	4	5	7	10	15	20	25	30	37	43	48	53	58	63	68	73	78	83	88	93	98	103	108	113	118	123	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	213	218	223	228	233	238	243	248	253	258	263	268	273	278	283	288	293	298	303	308	313	318	323	328	333	338	343	348	353	358	363	368	373	378	383	388	393	398	403	408	413	418	423	428	433	438	443	448	453	458	463	468	473	478	483	488	493	498	503	508	513	518	523	528	533	538	543	548	553	558	563	568	573	578	583	588	593	598	603	608	613	618	623	628	633	638	643	648	653	658	663	668	673	678	683	688	693	698	703	708	713	718	723	728	733	738	743	748	753	758	763	768	773	778	783	788	793	798	803	808	813	818	823	828	833	838	843	848	853	858	863	868	873	878	883	888	893	898	903	908	913	918	923	928	933	938	943	948	953	958	963	968	973	978	983	988	993	998	1003	1008	1013	1018	1023	1028	1033	1038	1043	1048	1053	1058	1063	1068	1073	1078	1083	1088	1093	1098	1103	1108	1113	1118	1123	1128	1133	1138	1143	1148	1153	1158	1163	1168	1173	1178	1183	1188	1193	1198	1203	1208	1213	1218	1223	1228	1233	1238	1243	1248	1253	1258	1263	1268	1273	1278	1283	1288	1293	1298	1303	1308	1313	1318	1323	1328	1333	1338	1343	1348	1353	1358	1363	1368	1373	1378	1383	1388	1393	1398	1403	1408	1413	1418	1423	1428	1433	1438	1443	1448	1453	1458	1463	1468	1473	1478	1483	1488	1493	1498	1503	1508	1513	1518	1523	1528	1533	1538	1543	1548	1553	1558	1563	1568	1573	1578	1583	1588	1593	1598	1603	1608	1613	1618	1623	1628	1633	1638	1643	1648	1653	1658	1663	1668	1673	1678	1683	1688	1693	1698	1703	1708	1713	1718	1723	1728	1733	1738	1743	1748	1753	1758	1763	1768	1773	1778	1783	1788	1793	1798	1803	1808	1813	1818	1823	1828	1833	1838	1843	1848	1853	1858	1863	1868	1873	1878	1883	1888	1893	1898	1903	1908	1913	1918	1923	1928	1933	1938	1943	1948	1953	1958	1963	1968	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023	2028	2033	2038	2043	2048	2053	2058	2063	2068	2073	2078	2083	2088	2093	2098	2103	2108	2113	2118	2123	2128	2133	2138	2143	2148	2153	2158	2163	2168	2173	2178	2183	2188	2193	2198	2203	2208	2213	2218	2223	2228	2233	2238	2243	2248	2253	2258	2263	2268	2273	2278	2283	2288	2293	2298	2303	2308	2313	2318	2323	2328	2333	2338	2343	2348	2353	2358	2363	2368	2373	2378	2383	2388	2393	2398	2403	2408	2413	2418	2423	2428	2433	2438	2443	2448	2453	2458	2463	2468	2473	2478	2483	2488	2493	2498	2503	2508	2513	2518	2523	2528	2533	2538	2543	2548	2553	2558	2563	2568	2573	2578	2583	2588	2593	2598	2603	2608	2613	2618	2623	2628	2633	2638	2643	2648	2653	2658	2663	2668	2673	2678	2683	2688	2693	2698	2703	2708	2713	2718	2723	2728	2733	2738	2743	2748	2753	2758	2763	2768	2773	2778	2783	2788	2793	2798	2803	2808	2813	2818	2823	2828	2833	2838	2843	2848	2853	2858	2863	2868	2873	2878	2883	2888	2893	2898	2903	2908	2913	2918	2923	2928	2933	2938	2943	2948	2953	2958	2963	2968	2973	2978	2983	2988	2993	2998	3003	3008	3013	3018	3023	3028	3033	3038	3043	3048	3053	3058	3063	3068	3073	3078	3083	3088	3093	3098	3103	3108	3113	3118	3123	3128	3133	3138	3143	3148	3153	3158	3163	3168	3173	3178	3183	3188	3193	3198	3203	3208	3213	3218	3223	3228	3233	3238	3243	3248	3253	3258	3263	3268	3273	3278	3283	3288	3293	3298	3303	3308	3313	3318	3323	3328	3333	3338	3343	3348	3353	3358	3363	3368	3373	3378	3383	3388	3393	3398	3403	3408	3413	3418	3423	3428	3433	3438	3443	3448	3453	3458	3463	3468	3473	3478	3483	3488	3493	3498	3503	3508	3513	3518	3523	3528	3533	3538	3543	3548	3553	3558	3563	3568	3573	3578	3583	3588	3593	3598	3603	3608	3613	3618	3623	3628	3633	3638	3643	3648	3653	3658	3663	3668	3673	3678	3683	3688	3693	3698	3703	3708	3713	3718	3723	3728	3733	3738	3743	3748	3753	3758	3763	3768	3773	3778	3783	3788	3793	3798	3803	3808	3813	3818	3823	3828	3833	3838	3843	3848	3853	3858	3863	3868	3873	3878	3883	3888	3893	3898	3903	3908	3913	3918	3923	3928	3933	3938	3943	3948	3953	3958	3963	3968	3973	3978	3983	3988	3993	3998	4003	4008	4013	4018	4023	4028	4033	4038	4043	4048	4053	4058	4063	4068	4073	4078	4083	4088	4093	4098	4103	4108	4113	4118	4123	4128	4133	4138	4143	4148	4153	4158	4163	4168	4173	4178	4183	4188	4193	4198	4203	4208	4213	4218	4223	4228	4233	4238	4243	4248	4253	4258	4263	4268	4273	4278	4283	4288	4293	4298	4303	4308	4313	4318	4323	4328	4333	4338	4343	4348	4353	4358	4363	4368	4373	4378	4383	4388	4393	4398	4403	4408	4413	4418	4423	4428	4433	4438	4443	4448	4453	4458	4463	4468	4473	4478	4483	4488	4493	4498	4503	4508	4513	4518	4523	4528	4533	4538	4543	4548	4553	4558	4563	4568	4573	4578	4583	4588	4593	4598	4603	4608	4613	4618	4623	4628	4633	4638	4643	4648	4653	4658	4663	4668	4673	4678	4683	4688	4693	4698	4703	4708	4713	4718	4723	4728	4733	4738	4743	4748	4753	4758	4763	4768	4773	4778	4783	4788	4793	4798	4803	4808	4813	4818	4823	4828	4833	4838	4843	4848	4853	4858	4863	4868	4873	4878	4883	4888	4893	4898	4903	4908	4913	4918	4923	4928	4933	4938	4943	4948	4953	4958	4963	4968	4973	4978	4983	4988	4993	4998	5003	5008	5013	5018	5023	5028	5033	5038	5043	5048	5053	5058	5063	5068	5073	5078	5083	5088	5093	5098	5103	5108	5113	5118	5123	5128	5133	5138	5143	5148	5153	5158	5163	5168	5173	5178	5183	5188	5193	5198	5203	5208	5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Measurements are in Inches

	Stature (x)	Chest Circumference (y)
Mean:	69.497	37.717
S.D.:	2.251	2.066
$x = .253y + 59.955$		
$y = .233x + 22.914$		
$r = .233$		

Chest Depth	Stature	1	3	16	20	47	48	64	73	63	48	43	37	14	10	9	1	500
5.69 - 7.03																		
7.09 - 7.47																		
7.43 - 7.96																		
7.87 - 8.26																		
8.27 - 8.65																		
8.66 - 9.05																		
9.06 - 9.44																		
9.45 - 9.83																		
9.84 - 10.23																		
10.24 - 10.62																		
10.63 - 11.01																		
11.02 - 11.41																		
11.42 - 11.80																		
11.81 - 12.20																		
12.21 - 12.59																		
62.7 - 63.4																		
63.5 - 64.2																		
64.3 - 65.0																		
65.0 - 65.7																		
65.8 - 66.5																		
66.6 - 67.3																		
67.4 - 68.1																		
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68.9 - 69.6																		
69.7 - 70.4																		
70.5 - 71.2																		
71.3 - 72.0																		
72.1 - 72.8																		
72.9 - 73.6																		
73.7 - 74.4																		
74.5 - 75.2																		
75.3 - 76.0																		

Measurements are in Inches

Stature (x)
Chest Depth (y)

Mean: 69.497
Mean: 9.309

S.D.: 2.251
S.D.: .790

$r = .173$
 $x = .494y + 5.047$
 $y = .061x + 4.770$

Measurements are in Inches

Mean: 69.497	S.D.: 2.251	$r = .744$
Mean: 31.689	S.D.: 1.643	$x = 1.0197 + 37.206$
		$y = .543x - 6.045$

	62.7 - 63.4	63.5 - 64.2	64.3 - 65.0	65.0 - 65.7	65.8 - 66.5	66.6 - 67.3	67.4 - 68.1	68.2 - 68.9	69.0 - 69.7	70.8 - 71.5	71.6 - 72.3	72.4 - 73.1	73.2 - 73.9	74.0 - 74.7	74.8 - 75.5	75.6 - 76.3	
27.6 - 28.3	1			1		2	1			1	1		1				7
28.4 - 29.1		1		3	8	6	4	3	1			1	1				31
29.2 - 29.9		1	1	4	8	12	11	8	2	4	4		1	1			69
30.0 - 30.7	1	1	2	7	4	21	15	21	13	8	5	4					120
30.8 - 31.5						4	13	21	26	16	8	8	1	2	3		121
31.6 - 32.3				1		1	2	9	12	6	14	8	7	2	2	1	82
32.4 - 33.1						1		2	7	9	9	8	2	3	2		45
33.2 - 33.9							1	1	1	3		6		2	1		16
34.0 - 34.7							1				1	1	1		1		5
34.8 - 35.5									1		1	1					3
35.6 - 36.3										1							1
	1	3	3	16	20	47	48	64	73	48	43	37	14	10	9	1	500

Measurements are in inches

Stature (x)	Mean: 69.477	S.D.: 2.251	$r = .541$
Eye Height, Sitting (y)	Mean: 30.904	S.D.: 1.741	$x = .953y + 40.107$ $y = .308x + 9.499$

Stature

Foot Length	8.56 - 8.75	8.76 - 8.95	8.96 - 9.15	9.16 - 9.35	9.36 - 9.54	9.55 - 9.74	9.75 - 9.94	9.95 - 10.13	10.14 - 10.33	10.34 - 10.53	10.54 - 10.73	10.74 - 10.92	10.93 - 11.12	11.13 - 11.32	11.33 - 11.51	11.52 - 11.71	11.72 - 11.91	11.92 - 12.10	12.11 - 12.30
62.7 - 63.4					1														
63.5 - 64.2				1			2												
64.3 - 65.0					1														
65.0 - 65.7			1			1	1	4	1	1	2	5	1						
65.8 - 66.5					1		1	1	2	6	12	7	3	1	1				
66.6 - 67.3						1		1	9	12	10	15	17	18	16	5	2		
67.4 - 68.1			1			1	1	2	3	4	6	10	11	13	11	3	3		
68.2 - 68.9							1	3	3	4	6	10	13	17	18	12	5	1	
68.9 - 69.6								3	3	3	10	12	17	18	16	5	2		
69.7 - 70.4																			
70.5 - 71.2																			
71.3 - 72.0																			
72.1 - 72.8																			
72.9 - 73.6																			
73.7 - 74.4																			
74.5 - 75.2																			
75.3 - 76.0																			

$$r = .589$$

$$x = 2.714y + 40.598$$

$$y = .126x + 1.767$$

Mean: 69.497
Mean: 10.663

Stature (x)
Foot Length (y)

Measurements are in Inches

S.D.: 2.251
S.D.: .488

1 3 3 16 20 47 48 64 73 63 48 43 37 10 9 1 500

Measurements are in Inches

Stature (x)	Mean: 69.497	S.D.: 2.251	$r = .562$
Forearm-Hand Length (y)	Mean: 19.033	S.D.: .860	$x = 1.471y + 41.499$
			$y = .215x + 4.091$

Measurements are in Inches

Stature (x)	Mean: 69.497	S.D.: 2.251	x^2 : 3,5457	+ 43.012
Hand Length (y)	Mean: 7.471	S.D.: .304	y^2 : .0828	+ 1.703
			r^2 : .543	

Kneecap Height	Stature															
	16.5 - 17.2	17.3 - 18.0	18.1 - 18.8	18.9 - 19.6	19.7 - 20.4	20.5 - 21.2	21.3 - 22.0	22.1 - 22.8	22.9 - 23.6	23.6 - 24.3	Stature (x) Kneecap Height (y)	Mean: 69.497 Mean: 20.890	S.D.: 2.251 S.D.: 1.119	r = .628 x = 1.284y + 4.113 y = .312x - .833		
62.7 - 63.4				1							1				1	500
63.5 - 64.2			2	1												
64.3 - 65.0			1	1		1										
65.0 - 65.7	1	2	1	5	6	1	1									
65.8 - 66.5		2	2	4	9	3										
66.6 - 67.3			3	11	21	9	2	1								
67.4 - 68.1			1	5	24	13	5									
68.2 - 68.8			1	3	27	27	4	1								
69.9 - 69.6		1	1	3	17	26	20	5								
69.7 - 70.4	1			1	9	29	19	2	2							
70.5 - 71.2		1			1	23	13	9	1							
71.3 - 72.0		1			2	9	17	10	4							
72.1 - 72.8						5	15	13	1							
72.9 - 73.6						2	1	6	2							
73.7 - 74.4							2	4	2							
74.5 - 75.2							3	1	4							
75.3 - 76.0																

Measurements are in Inches

三

Measurements are in inches	Stature (x)	Mean: 69.497	S.D.: 2.251	x = .901y + 29.021
	Lo.; Length, Sitting (y)	Mean: 44.923	S.D.: 1.635	y = .475x + 11.912
				r = .654

Stature

Stature	62.7 - 63.6	63.5 - 64.2	64.3 - 65.0	65.0 - 65.7	65.8 - 66.5	66.6 - 67.3	67.4 - 68.1	68.1 - 68.8	68.9 - 69.6	69.7 - 70.4	70.5 - 71.2	71.3 - 72.0	72.1 - 72.8	72.9 - 73.6	73.7 - 74.4	74.5 - 75.2	75.3 - 76.0
12.50 - 12.92							1		1	1		1					2
12.93 - 13.38							1		1	1		1					2
13.39 - 13.77				4	2	3	3	4	1	1		1					21
13.78 - 14.16		1				6	5	2	6	3		3					28
14.17 - 14.56		1			5	10	3	9	9	7	6	7	2		2		61
14.57 - 14.95			2	2	3	12	7	12	17	9	9	9	6	5	2		95
14.96 - 15.34		1	1	5	3	6	11	14	12	16	9	10	7	1	1	2	99
15.35 - 15.74				3	2	5	11	13	14	11	12	4	8	1	3	4	92
15.75 - 16.13	1			2	3	4	5	6	9	12	5	6	6	2	1	3	65
16.14 - 16.53					2	1		2	2	3	3	1	5	2	1		22
16.54 - 16.92							2	2			3	1	1				9
16.93 - 17.31									2					1			3
17.32 - 17.71											1						1
	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	500

Neck Circumference

Measurements are in Inches

Stature (x)
Neck Circumference (y)Mean: 69.497
Mean: 15.109S.D.: 2.251
S.D.: .757r = .185
r² = .0347 + 61.202
y = .062x + 10.800

Stature

Stature	62.7 - 63.6	63.5 - 64.2	64.3 - 65.0	65.1 - 65.7	65.8 - 66.5	66.6 - 67.3	67.4 - 68.1	68.2 - 68.8	68.9 - 69.6	69.7 - 70.4	70.5 - 71.2	71.3 - 72.0	72.1 - 72.8	72.9 - 73.6	73.7 - 74.4	74.5 - 75.2	75.3 - 76.0
31.5 - 32.2	1							1									1
32.3 - 33.0			1	1				2	4								1
33.1 - 33.8			2					1	1								1
33.9 - 34.6		1			1	1	2	1	6	1		1	2				10
34.7 - 35.4				1	1	5	1	2	4	5		2	1				7
35.5 - 36.2		1		3	4	9	8	10	4	3	2	5	1				22
36.3 - 37.0			1		2	6	5	5	6	12	4	8	2				50
37.0 - 37.7	1			5	5	12	5	10	14	9	5	5	2	2	1	1	40
37.8 - 38.5		1		2	3	3	7	9	12	8	8	8	4	4	2	4	82
38.6 - 39.3					1	7	9	14	11	10	10	7	6	1	2		70
39.4 - 40.1					2	3	5	3	10	10	11	3	6	2	1	1	83
40.2 - 40.9				1	2	1	1	3	2	6	4	2	4				60
41.0 - 41.7			1	1				2	3	4	2	2					33
41.8 - 42.5							1	1		2						1	22
42.6 - 43.2							1	1		2					1		5
43.3 - 44.0							1			1		1	2				6
44.1 - 44.8																	5
44.9 - 45.6																	2
																	1
																	500

Seat Circumference

Measurements are in Inches

Stature (x)
Seat Circumference (y)

Mean: 69.497
Mean: 38.179

S.D.: 2.251
S.D.: 2.056

$r = .330$
 $r^2 = .109$
 $r^2 = .361$
 $r^2 = .130$

Measurements are in inches

Statute (z)

Mem: 69 107

END. 225

$$\begin{aligned} r &= .322 \\ x &= .831y + 57.708 \\ y &= .123x + 5.500 \end{aligned}$$

Stature

15.4 - 15.7	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	1	500
15.8 - 15.9																		
16.0 - 16.1		3																
16.2 - 16.3	1																	
16.4 - 16.5																		
16.6 - 16.7																		
16.8 - 16.9																		
17.0 - 17.1																		
17.2 - 17.3																		
17.4 - 17.5																		
17.6 - 17.7																		
17.8 - 17.9																		
18.0 - 18.1																		
18.2 - 18.3																		
18.4 - 18.5																		
18.6 - 18.7																		
18.8 - 18.9																		
19.0 - 19.1																		
19.2 - 19.3																		
19.4 - 19.5																		
19.6 - 19.7																		
19.8 - 19.9																		
20.0 - 20.1																		
20.2 - 20.3																		
20.4 - 20.5																		
20.6 - 20.7																		
20.8 - 20.9																		
21.0 - 21.1																		
21.2 - 21.3																		
21.4 - 21.5																		
21.6 - 21.7																		
21.8 - 21.9																		
22.0 - 22.1																		

Measurements are in inches

Stature (x)
Shoulder Breadth (y)

Mean: 69.497
Mean: 18.268

S.D.: 3.231
S.D.: .875

$r = .257$
 $x = .746y + 55.869$
 $y = .113x + 10.415$

Measurements are in Inches	Mean: 69.497	S.D.: 2.251	x=256y + 57.873
	Mean: 45.408	S.D.: 2.235	y=253x + 27.825
			r=.255

[illegible]

	62.7 - 63.4	63.5 - 64.2	64.3 - 65.0	65.0 - 65.7	65.8 - 66.5	66.6 - 67.3	67.4 - 68.1	68.2 - 68.8	68.9 - 69.6	69.7 - 70.4	70.5 - 71.2	71.3 - 72.0	72.1 - 72.8	72.9 - 73.6	73.7 - 74.4	74.5 - 75.2	75.3 - 76.0
Stature	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	1
24.4 - 25.1									1				1				
25.2 - 25.9							1						1				
26.0 - 26.7				1		1						1					
26.8 - 27.5	1																
27.6 - 28.3		1		1									1				
28.4 - 29.1	1	1	1	3	4	5	3	4	2					1			
29.2 - 29.9	1	1	1	4	6	10	13	8	5	1	1			1			
30.0 - 30.7			1	2	7	17	13	18	10	11	6	2	2	1	1		
30.7 - 31.4				4	2	6	11	18	24	20	10	3	4			1	
31.5 - 32.2					1	3	3	13	18	18	17	13	7	5	1	1	
32.3 - 33.0						3	2	1	6	7	6	13	7	4	3	3	
33.1 - 33.8				1		1	1	1	3	4	6	4	8	1	1	3	
33.9 - 34.6								1	2	1		1	4		2		
34.7 - 35.4												4	1	1		1	
35.5 - 36.2							1		1	1	1	2			1		1
36.3 - 37.0									1		1				1		
37.1 - 37.7													1				
	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	1
																	500

$r = .526$
 $x = .701y + 47.542$
 $y = .395x + 3.869$

Mean: 69.697
 Mean: 31.320

S.D.: 2.251
 S.D.: 1.689

Measurements are in Inches

Stature (x)

Sleeve Length (y)

Stature

Waist Circumference	62.7 - 63.4	63.5 - 64.2	64.3 - 65.0	65.0 - 65.7	65.8 - 66.5	66.6 - 67.3	67.4 - 68.1	68.1 - 68.8	68.9 - 69.6	69.7 - 70.4	70.5 - 71.2	71.3 - 72.0	72.1 - 72.8	72.9 - 73.6	73.7 - 74.4	74.5 - 75.2	75.3 - 76.0
26.0 - 26.7	1				1	1			1	1							3
26.8 - 27.5					1	2	1	1	1								4
27.6 - 28.3		1	3			3	1	1	1	1		2					13
28.4 - 29.1							4	4	4	2	3	3		1			19
29.2 - 29.9			1			7	1	7	2	1	1	2				1	23
30.0 - 30.7	1			1	3	7	6	4	13	6		4				1	52
30.7 - 31.4				1	1	7	7	10	7	4	9	4				1	53
31.5 - 32.2		1		2	6	6	6	12	3	6	5	5		1			53
32.3 - 33.0			1		1	5	3	4	11	7	3	4	6		1	1	47
33.1 - 33.8		1			1	1	6	9	12	12	6	5	3	2	1	1	62
33.9 - 34.6			1	1	3	4	6	3	9	6	8	7	3	5	1	1	59
34.7 - 35.4				3	1	5	2	3	3	6	2	3	3	1	2	1	35
35.5 - 36.2			1	1	2	1	2	1	3	4	3	2	6	1	3		29
36.3 - 37.0					1		1	2	2	3	6		3			1	19
37.0 - 37.7			2				2	3	1	1		2	4			1	16
37.8 - 38.5							1			1	1						3
38.6 - 39.3						1				1	1						3
39.4 - 40.1										1			1				2
	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	500

Measurements are in Inches

Stature (x)
Waist Circumference (y)Mean: 69.497
Mean: 32.696S.D.: 2.251
S.D.: 2.469r = .196
x = .177x + 63.710
y = .217x + 17.615

Waist Height (Outward)

Stature	36.3 - 37.0	37.0 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1	40.2 - 40.9	41.0 - 41.7	41.8 - 42.5	42.5 - 43.2	43.3 - 44.0	44.1 - 44.8	44.9 - 45.6	45.7 - 46.4	46.5 - 47.2	47.3 - 48.0	1	3	3	16	20	47	48	64	73	63	48	43	37	14	10	9	1	500
62.7 - 63.4	1																																
63.5 - 64.2		2																															
64.3 - 65.0			1																														
65.0 - 65.7				3	6																												
65.8 - 66.5	1																																
66.6 - 67.3																																	
67.4 - 68.1		1																															
68.1 - 68.8																																	
68.9 - 69.6																																	
69.7 - 70.4																																	
70.5 - 71.2																																	
71.3 - 72.0																																	
72.1 - 72.8																																	
72.9 - 73.6																																	
73.7 - 74.4																																	
74.5 - 75.2																																	
75.3 - 76.0																																	

$r = .752$
 $x = .9457 + 30.133$
 $y = .599x + .026$

Measurements are in inches

Stature (x)
 Waist Height (y)

S.D.: 2.251
 S.D.: 1.792

Mean: 69.497
 Mean: 41.655

Stature

Weight	110 - 119	120 - 129	130 - 139	140 - 149	150 - 159	160 - 169	170 - 179	180 - 189	190 - 199	200 - 209	210 - 219	220 - 229	Stature	Frequency
62.7 - 63.4				1									62.7 - 63.4	1
63.5 - 64.2	1			1	1								63.5 - 64.2	3
64.3 - 65.0			1										64.3 - 65.0	3
65.0 - 65.7	1	1	2	1	4	4	2		1				65.0 - 65.7	16
65.8 - 66.5			1	5	4	4	5	1					65.8 - 66.5	20
66.6 - 67.3		2	5	13	12	10	3	2					66.6 - 67.3	47
67.4 - 68.1		2	3	8	9	13	8	4	1				67.4 - 68.1	48
68.1 - 68.8		1	4	14	12	15	11	4	3				68.1 - 68.8	64
68.9 - 69.6		2	3	9	12	19	16	7	4	1			68.9 - 69.6	73
69.7 - 70.4		1	1	5	6	17	12	12	4	4	1		69.7 - 70.4	63
70.5 - 71.2				2	5	9	12	9	8	2	1		70.5 - 71.2	48
71.3 - 72.0			1	4	7	8	6	10	6			1	71.3 - 72.0	43
72.1 - 72.8				2	3	5	9	6	4	5	2		72.1 - 72.8	37
72.9 - 73.6		1	1	1	2	1	1	5	3				72.9 - 73.6	14
73.7 - 74.4					1	1	1	1	3	3	3		73.7 - 74.4	10
74.5 - 75.2							3			3	1		74.5 - 75.2	9
75.3 - 76.0									1				75.3 - 76.0	1
														500

$r = .455$
 $r^2 = .094$
 $y = 3.620x - 99.707$

S.D.: 2.251
S.D.: 18.899

Mean: 69.197
Mean: 165.772

Stature (x)
Weight (y)

Stature is in Inches
Weight is in Pounds

Waist Circumference

31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.1 - 37.8	37.9 - 38.6	38.7 - 39.4	39.5 - 40.2	40.3 - 41.0	41.1 - 41.8	41.9 - 42.6	42.7 - 43.4	43.5 - 44.2	44.3 - 45.0	45.1 - 45.8	45.9 - 46.6	46.7 - 47.4	47.5 - 48.2	48.3 - 49.0	49.1 - 49.8	49.9 - 50.6	50.7 - 51.4	51.5 - 52.2	52.3 - 53.0	53.1 - 53.8	53.9 - 54.6	54.7 - 55.4	55.5 - 56.2	56.3 - 57.0	57.1 - 57.8	57.9 - 58.6	58.7 - 59.4	59.5 - 60.2	60.3 - 61.0	61.1 - 61.8	61.9 - 62.6	62.7 - 63.4	63.5 - 64.2	64.3 - 65.0	65.1 - 65.8	65.9 - 66.6	66.7 - 67.4	67.5 - 68.2	68.3 - 69.0	69.1 - 69.8	69.9 - 70.6	70.7 - 71.4	71.5 - 72.2	72.3 - 73.0	73.1 - 73.8	73.9 - 74.6	74.7 - 75.4	75.5 - 76.2	76.3 - 77.0	77.1 - 77.8	77.9 - 78.6	78.7 - 79.4	79.5 - 80.2	80.3 - 81.0	81.1 - 81.8	81.9 - 82.6	82.7 - 83.4	83.5 - 84.2	84.3 - 85.0	85.1 - 85.8	85.9 - 86.6	86.7 - 87.4	87.5 - 88.2	88.3 - 89.0	89.1 - 89.8	89.9 - 90.6	90.7 - 91.4	91.5 - 92.2	92.3 - 93.0	93.1 - 93.8	93.9 - 94.6	94.7 - 95.4	95.5 - 96.2	96.3 - 97.0	97.1 - 97.8	97.9 - 98.6	98.7 - 99.4	99.5 - 100.2	100.3 - 101.0	101.1 - 101.8	101.9 - 102.6	102.7 - 103.4	103.5 - 104.2	104.3 - 105.0	105.1 - 105.8	105.9 - 106.6	106.7 - 107.4	107.5 - 108.2	108.3 - 109.0	109.1 - 109.8	109.9 - 110.6	110.7 - 111.4	111.5 - 112.2	112.3 - 113.0	113.1 - 113.8	113.9 - 114.6	114.7 - 115.4	115.5 - 116.2	116.3 - 117.0	117.1 - 117.8	117.9 - 118.6	118.7 - 119.4	119.5 - 120.2	120.3 - 121.0	121.1 - 121.8	121.9 - 122.6	122.7 - 123.4	123.5 - 124.2	124.3 - 125.0	125.1 - 125.8	125.9 - 126.6	126.7 - 127.4	127.5 - 128.2	128.3 - 129.0	129.1 - 129.8	129.9 - 130.6	130.7 - 131.4	131.5 - 132.2	132.3 - 133.0	133.1 - 133.8	133.9 - 134.6	134.7 - 135.4	135.5 - 136.2	136.3 - 137.0	137.1 - 137.8	137.9 - 138.6	138.7 - 139.4	139.5 - 140.2	140.3 - 141.0	141.1 - 141.8	141.9 - 142.6	142.7 - 143.4	143.5 - 144.2	144.3 - 145.0	145.1 - 145.8	145.9 - 146.6	146.7 - 147.4	147.5 - 148.2	148.3 - 149.0	149.1 - 149.8	149.9 - 150.6	150.7 - 151.4	151.5 - 152.2	152.3 - 153.0	153.1 - 153.8	153.9 - 154.6	154.7 - 155.4	155.5 - 156.2	156.3 - 157.0	157.1 - 157.8	157.9 - 158.6	158.7 - 159.4	159.5 - 160.2	160.3 - 161.0	161.1 - 161.8	161.9 - 162.6	162.7 - 163.4	163.5 - 164.2	164.3 - 165.0	165.1 - 165.8	165.9 - 166.6	166.7 - 167.4	167.5 - 168.2	168.3 - 169.0	169.1 - 169.8	169.9 - 170.6	170.7 - 171.4	171.5 - 172.2	172.3 - 173.0	173.1 - 173.8	173.9 - 174.6	174.7 - 175.4	175.5 - 176.2	176.3 - 177.0	177.1 - 177.8	177.9 - 178.6	178.7 - 179.4	179.5 - 180.2	180.3 - 181.0	181.1 - 181.8	181.9 - 182.6	182.7 - 183.4	183.5 - 184.2	184.3 - 185.0	185.1 - 185.8	185.9 - 186.6	186.7 - 187.4	187.5 - 188.2	188.3 - 189.0	189.1 - 189.8	189.9 - 190.6	190.7 - 191.4	191.5 - 192.2	192.3 - 193.0	193.1 - 193.8	193.9 - 194.6	194.7 - 195.4	195.5 - 196.2	196.3 - 197.0	197.1 - 197.8	197.9 - 198.6	198.7 - 199.4	199.5 - 200.2	200.3 - 201.0	201.1 - 201.8	201.9 - 202.6	202.7 - 203.4	203.5 - 204.2	204.3 - 205.0	205.1 - 205.8	205.9 - 206.6	206.7 - 207.4	207.5 - 208.2	208.3 - 209.0	209.1 - 209.8	209.9 - 210.6	210.7 - 211.4	211.5 - 212.2	212.3 - 213.0	213.1 - 213.8	213.9 - 214.6	214.7 - 215.4	215.5 - 216.2	216.3 - 217.0	217.1 - 217.8	217.9 - 218.6	218.7 - 219.4	219.5 - 220.2	220.3 - 221.0	221.1 - 221.8	221.9 - 222.6	222.7 - 223.4	223.5 - 224.2	224.3 - 225.0	225.1 - 225.8	225.9 - 226.6	226.7 - 227.4	227.5 - 228.2	228.3 - 229.0	229.1 - 229.8	229.9 - 230.6	230.7 - 231.4	231.5 - 232.2	232.3 - 233.0	233.1 - 233.8	233.9 - 234.6	234.7 - 235.4	235.5 - 236.2	236.3 - 237.0	237.1 - 237.8	237.9 - 238.6	238.7 - 239.4	239.5 - 240.2	240.3 - 241.0	241.1 - 241.8	241.9 - 242.6	242.7 - 243.4	243.5 - 244.2	244.3 - 245.0	245.1 - 245.8	245.9 - 246.6	246.7 - 247.4	247.5 - 248.2	248.3 - 249.0	249.1 - 249.8	249.9 - 250.6	250.7 - 251.4	251.5 - 252.2	252.3 - 253.0	253.1 - 253.8	253.9 - 254.6	254.7 - 255.4	255.5 - 256.2	256.3 - 257.0	257.1 - 257.8	257.9 - 258.6	258.7 - 259.4	259.5 - 260.2	260.3 - 261.0	261.1 - 261.8	261.9 - 262.6	262.7 - 263.4	263.5 - 264.2	264.3 - 265.0	265.1 - 265.8	265.9 - 266.6	266.7 - 267.4	267.5 - 268.2	268.3 - 269.0	269.1 - 269.8	269.9 - 270.6	270.7 - 271.4	271.5 - 272.2	272.3 - 273.0	273.1 - 273.8	273.9 - 274.6	274.7 - 275.4	275.5 - 276.2	276.3 - 277.0	277.1 - 277.8	277.9 - 278.6	278.7 - 279.4	279.5 - 280.2	280.3 - 281.0	281.1 - 281.8	281.9 - 282.6	282.7 - 283.4	283.5 - 284.2	284.3 - 285.0	285.1 - 285.8	285.9 - 286.6	286.7 - 287.4	287.5 - 288.2	288.3 - 289.0	289.1 - 289.8	289.9 - 290.6	290.7 - 291.4	291.5 - 292.2	292.3 - 293.0	293.1 - 293.8	293.9 - 294.6	294.7 - 295.4	295.5 - 296.2	296.3 - 297.0	297.1 - 297.8	297.9 - 298.6	298.7 - 299.4	299.5 - 300.2	300.3 - 301.0	301.1 - 301.8	301.9 - 302.6	302.7 - 303.4	303.5 - 304.2	304.3 - 305.0	305.1 - 305.8	305.9 - 306.6	306.7 - 307.4	307.5 - 308.2	308.3 - 309.0	309.1 - 309.8	309.9 - 310.6	310.7 - 311.4	311.5 - 312.2	312.3 - 313.0	313.1 - 313.8	313.9 - 314.6	314.7 - 315.4	315.5 - 316.2	316.3 - 317.0	317.1 - 317.8	317.9 - 318.6	318.7 - 319.4	319.5 - 320.2	320.3 - 321.0	321.1 - 321.8	321.9 - 322.6	322.7 - 323.4	323.5 - 324.2	324.3 - 325.0	325.1 - 325.8	325.9 - 326.6	326.7 - 327.4	327.5 - 328.2	328.3 - 329.0	329.1 - 329.8	329.9 - 330.6	330.7 - 331.4	331.5 - 332.2	332.3 - 333.0	333.1 - 333.8	333.9 - 334.6	334.7 - 335.4	335.5 - 336.2	336.3 - 337.0	337.1 - 337.8	337.9 - 338.6	338.7 - 339.4	339.5 - 340.2	340.3 - 341.0	341.1 - 341.8	341.9 - 342.6	342.7 - 343.4	343.5 - 344.2	344.3 - 345.0	345.1 - 345.8	345.9 - 346.6	346.7 - 347.4	347.5 - 348.2	348.3 - 349.0	349.1 - 349.8	349.9 - 350.6	350.7 - 351.4	351.5 - 352.2	352.3 - 353.0	353.1 - 353.8	353.9 - 354.6	354.7 - 355.4	355.5 - 356.2	356.3 - 357.0	357.1 - 357.8	357.9 - 358.6	358.7 - 359.4	359.5 - 360.2	360.3 - 361.0	361.1 - 361.8	361.9 - 362.6	362.7 - 363.4	363.5 - 364.2	364.3 - 365.0	365.1 - 365.8	365.9 - 366.6	366.7 - 367.4	367.5 - 368.2	368.3 - 369.0	369.1 - 369.8	369.9 - 370.6	370.7 - 371.4	371.5 - 372.2	372.3 - 373.0	373.1 - 373.8	373.9 - 374.6	374.7 - 375.4	375.5 - 376.2	376.3 - 377.0	377.1 - 377.8	377.9 - 378.6	378.7 - 379.4	379.5 - 380.2	380.3 - 381.0	381.1 - 381.8	381.9 - 382.6	382.7 - 383.4	383.5 - 384.2	384.3 - 385.0	385.1 - 385.8	385.9 - 386.6	386.7 - 387.4	387.5 - 388.2	388.3 - 389.0	389.1 - 389.8	389.9 - 390.6	390.7 - 391.4	391.5 - 392.2	392.3 - 393.0	393.1 - 393.8	393.9 - 394.6	394.7 - 395.4	395.5 - 396.2	396.3 - 397.0	397.1 - 397.8	397.9 - 398.6	398.7 - 399.4	399.5 - 400.2	400.3 - 401.0	401.1 - 401.8	401.9 - 402.6	402.7 - 403.4	403.5 - 404.2	404.3 - 405.0	405.1 - 405.8	405.9 - 406.6	406.7 - 407.4	407.5 - 408.2	408.3 - 409.0	409.1 - 409.8	409.9 - 410.6	410.7 - 411.4	411.5 - 412.2	412.3 - 413.0	413.1 - 413.8	413.9 - 414.6	414.7 - 415.4	415.5 - 416.2	416.3 - 417.0	417.1 - 417.8	417.9 - 418.6	418.7 - 419.4	419.5 - 420.2	420.3 - 421.0	421.1 - 421.8	421.9 - 422.6	422.7 - 423.4	423.5 - 424.2	424.3 - 425.0	425.1 - 425.8	425.9 - 426.6	426.7 - 427.4	427.5 - 428.2	428.3 - 429.0	429.1 - 429.8	429.9 - 430.6	430.7 - 431.4	431.5 - 432.2	432.3 - 433.0	433.1 - 433.8	433.9 - 434.6	434.7 - 435.4	435.5 - 436.2	436.3 - 437.0	437.1 - 437.8	437.9 - 438.6	438.7 - 439.4	439.5 - 440.2	440.3 - 441.0	441.1 - 441.8	441.9 - 442.6	442.7 - 443.4	443.5 - 444.2	444.3 - 445.0	445.1 - 445.8	445.9 - 446.6	446.7 - 447.4	447.5 - 448.2	448.3 - 449.0	449.1 - 449.8	449.9 - 450.6	450.7 - 451.4	451.5 - 452.2	452.3 - 453.0	453.1 - 453.8	453.9 - 454.6	454.7 - 455.4	455.5 - 456.2	456.3 - 457.0	457.1 - 457.8	457.9 - 458.6	458.7 - 459.4	459.5 - 460.2	460.3 - 461.0	461.1 - 461.8	461.9 - 462.6	462.7 - 463.4	463.5 - 464.2	464.3 - 465.0	465.1 - 465.8	465.9 - 466.6	466.7 - 467.4	467.5 - 468.2	468.3 - 469.0	469.1 - 469.8	469.9 - 470.6	470.7 - 471.4	471.5 - 472.2	472.3 - 473.0	473.1 - 473.8	473.9 - 474.6	474.7 - 475.4	475.5 - 476.2	476.3 - 477.0	477.1 - 477.8	477.9 - 478.6	478.7 - 479.4	479.5 - 480.2	480.3 - 481.0	481.1 - 481.8	481.9 - 482.6	482.7 - 483.4	483.5 - 484.2	484.3 - 485.0	485.1 - 485.8	485.9 - 486.6	486.7 - 487.4	487.5 - 488.2	488.3 - 489.0	489.1 - 489.8	489.9 - 490.6	490.7 - 491.4	491.5 - 492.2	492.3 - 493.0	493.1 - 493.8	493.9 - 494.6	494.7 - 495.4	495.5 - 496.2	496.3 - 497.0	497.1 - 497.8	497.9 - 498.6	498.7 - 499.4	499.5 - 500.2	500.3 - 501.0	501.1 - 501.8	501.9 - 502.6	502.7 - 503.4	503.5 - 504.2	504.3 - 505.0	505.1 - 505.8	505.9 - 506.6	506.7 - 507.4	507.5 - 508.2	508.3 - 509.0	509.1 - 509.8	509.9 - 510.6	510.7 - 511.4	511.5 - 512.2	512.3 - 513.0	513.1 - 513.8	513.9 - 514.6	514.7 - 515.4	515.5 - 516.2	516.3 - 517.0	517.1 - 517.8	517.9 - 518.6	518.7 - 519.4	519.5 - 520.2	520.3 - 521.0	521.1 - 521.8	521.9 - 522.6	522.7 - 523.4	523.5 - 524.2	524.3 - 525.0	525.1 - 525.8	525.9 - 526.6	526.7 - 527.4	527.5 - 528.2	528.3 - 529.0	529.1 - 529.8	529.9 - 530.6	530.7 - 531.4	531.5 - 532.2	532.3 - 533.0	533.1 - 533.8	533.9 - 534.6	534.7 - 535.4	535.5 - 536.2	536.3 - 537.0	537.1 - 537.8	537.9 - 538.6	538.7 - 539.4	539.5 - 540.2	540.3 - 541.0	541.1 - 541.8	541.9 - 542.6	542.7 - 543.4	543.5 - 544.2	544.3 - 545.0	545.1 - 545.8	545.9 - 546.6	546.7 - 547.4	547.5 - 548.2	548.3 - 549.0	549.1 - 549.8	549.9 - 550.6	550.7 - 551.4	551.5 - 552.2	552.3 - 553.0	553.1 - 553.8	553.9 - 554.6	554.7 - 555.4	555.5 - 556.2	556.3 - 557.0	557.1 - 557.8	557.9 - 558.6	558.7 - 559.4	559.5 - 560.2	560.3 - 561.0	561.1 - 561.8	561.9 - 562.6	562.7 - 563.4	563.5 - 564.2	564.3 - 565.0	565.1 - 565.8	565.9 - 566.6	566.7 - 567.4	567.5 - 568.2	568.3 - 569.0	569.1 - 569.8	569.9 - 570.6	570.7 - 571.4	571.5 - 572.2	572.3 - 573.0	573.1 - 573.8	573.9 - 574.6	574.7 - 575.4	575.5 - 576.2	576.3 - 577.0	577.1 - 577.8	577.9 - 578.6	578.7 - 579.4	579.5 - 580.2	580.3 - 581.0	581.1 - 581.8	581.9 - 582.6	582.7 - 583.4	583.5 - 584.2	584.3 - 585.0	585.1 - 585.8	585.9 - 586.6	586.7 - 587.4	587.5 - 588.2	588.3 - 589.0	589.1 - 589.8	589.9 - 590.6	590.7 - 591.4	591.5 - 592.2	592.3 - 593.0	593.1 - 593.8	593.9 - 594.6	594.7 - 595.4	595.5 - 596.2	596.3 - 597.0	597.1 - 597.8	597.9 - 598.6	598.7 - 599.4	599.5 - 600.2	600.3 - 601.0	601.1 - 601.8	601.9 - 602.6	602.7 - 603.4	603.5 - 604.2	604.3 - 605.0	605.1 - 605.8	605.9 - 606.6	606.7 - 607.4	607.5 - 608.2	608.3 - 609.0	609.1 - 609.8	609.9 - 610.6	610.7 - 611.4	611.5 - 612.2	612.3 - 613.0	613.1 - 613.8	613.9 - 614.6	614.7 - 615.4	615.5 - 616.2	616.3 - 617.0	617.1
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Measurements are in Inches				
Waist Circumference (x)	Means: 32.696	S.D.: 2.489	x^2 : .2227	x^2 : .160
Waist Height (y)	Means: 41.655	S.D.: 1.792	y^2 : .1198	y^2 : .37.895

	Waist Circumference is in Inches	Waist Circumference (x)	Weight is in Pounds	Weight (y)
Σ	424	Mean: 32.696	S.D.: 2.459	Σ 424
Σ	1099	S.D.: 14.627	Σ 1099	Σ 1099
Σ	6257x	Mean: 165.772	S.D.: 18.899	Σ 6257x
Σ	38.807			Σ 38.807

Wrist Circumference	26.0 - 26.7	26.8 - 27.5	27.6 - 28.3	28.4 - 29.1	29.2 - 29.9	30.0 - 30.7	30.8 - 31.4	31.5 - 32.2	32.3 - 33.0	33.1 - 33.8	33.9 - 34.6	34.7 - 35.4	35.5 - 36.2	36.3 - 37.0	37.1 - 37.7	37.8 - 38.5	38.6 - 39.3	39.4 - 40.1
36.3 - 37.0	2					1		1		1	1		1					
37.0 - 37.7	8		1			2	1	2		1								
37.8 - 38.5	8		1		2	1	1	1		1								
38.6 - 39.3	25	1	3		1	2	2	7	3	1	1	3	1					
39.4 - 40.1	59		1	3	2	4	9	12	7	6	9	1	1	1	3			
40.2 - 40.9	71	2	1	3	3	8	8	5	7	9	10	7	3	2	1	1	1	
41.0 - 41.7	83	1	1	3	7	12	11	5	6	6	9	7	4	3	2	1	2	1
41.8 - 42.5	97	1	1	3	3	9	11	12	9	15	12	3	6	4	3	1		
42.6 - 43.2	63	1		3	2	5	7	5	5	10	5	6	5	5	4			
43.3 - 44.0	37			3	2	3	2	3	2	4	6	5	3	2	2			
44.1 - 44.8	24		1	1		3	3		4	5	3	1	3					
44.9 - 45.6	16				1	2	2		2	1	2	1	2	1	1			1
45.7 - 46.4	3						2			1								
46.5 - 47.2	1							1	1		1							
47.3 - 48.0	500	3	4	13	19	23	58	53	47	62	59	35	29	19	16	3	3	2

Measurements are in Inches

Waist Circumference (x)	Waist Height (y)
30	60
32	62
34	64
36	66
38	68
40	70
42	72
44	74
46	76
48	78
50	80
52	82
54	84
56	86
58	88
60	90
62	92
64	94
66	96
68	98
70	100
72	102
74	104
76	106
78	108
80	110
82	112
84	114
86	116
88	118
90	120
92	122
94	124
96	126
98	128
100	130
102	132
104	134
106	136
108	138
110	140
112	142
114	144
116	146
118	148
120	150
122	152
124	154
126	156
128	158
130	160
132	162
134	164
136	166
138	168
140	170
142	172
144	174
146	176
148	178
150	180
152	182
154	184
156	186
158	188
160	190
162	192
164	194
166	196
168	198
170	200
172	202
174	204
176	206
178	208
180	210
182	212
184	214
186	216
188	218
190	220
192	222
194	224
196	226
198	228
200	230
202	232
204	234
206	236
208	238
210	240
212	242
214	244
216	246
218	248
220	250
222	252
224	254
226	256
228	258
230	260
232	262
234	264
236	266
238	268
240	270
242	272
244	274
246	276
248	278
250	280
252	282
254	284
256	286
258	288
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268	298
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272	302
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384	414
386	416
388	418
390	420
392	422
394	424
396	426
398	428
400	430
402	432
404	434
406	436
408	438
410	440
412	442
414	444
416	446
418	448
420	

Mean: 32.696
Mean: 41.655

$z = 1.160$
 $x = 2227 + 23.149$
 $y = 1112 + 17.895$

Waist Circumference

11 - 11.5	1	3	4	13	19	23	52	58	53	47	62	59	35	29	19	16	3	2	500
120 - 125	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
130 - 139	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
140 - 149	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150 - 159	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
160 - 169	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
170 - 179	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180 - 189	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
190 - 199	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200 - 209	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
210 - 219	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
220 - 229	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Waist Circumference is in Inches
Weight is in Pounds

Mean: 32.696
S.D.: 2.489

Mean: 165.772
S.D.: 18.899

$r = .824$
 $\chi^2 = .1079 + 11.627$
 $y = 6.257x - 38.807$

$$\begin{aligned} r &= .622 \\ x &= 3.2347 + 122.690 \\ y &= .120x - 6.555 \end{aligned}$$

Weight is in Pounds
Body Fat is in Percent

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